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A THIRD OF A CENTURY OF MEDICAL EDUCATION IN THE UNITED STATES: A CRITICAL APPRECIATION BY A GENERAL PRACTITIONER.*

WILLIAM M. DABNEY, M. D., Baltimore, Md.

A number of years ago my friend, Dr. Hugh H. Young, invited me to read a paper before the Medical and Chirurgical Faculty of Maryland of which he was at that time President. It has been so long ago that I have literally forgotten its title, but I have never forgotten the occasion and never shall. The gist of the paper was the suggestion that a chronic infection of adenoid tissue, especially of the tonsils and adenoids, was the underlying cause of the condition known as cyclic vomiting in children, and the treatment recommended was the radical removal of these organs. I had worked hard on the preparation of the paper, and after a painstaking search of the literature, having found only one reference to tonsil and adenoid infection as a possible cause of the condition, I had taken not a little pride in the fact that I had something out of the ordinary to present, something which might readily prove to be a small but genuine contribution to medical progress.

I had no sooner finished the presentation of my paper than the next speaker on the program, one of our most distinguished nasolaryngologists and a nationally known figure, got up and read a brilliantly sarcastic paper entitled "The Massacre of the Tonsil." If ever a man suffered a fall following pride and had the wind completely taken out of his sails, I was the man. So lasting was the effect, indeed, that my paper was never offered for publication. There I sat, delicately "roasted" by the speaker, and literally sweating from every pore. Then and there I made a solemn vow that never again would I read a paper in public if I could in any way avoid it. In passing I might add that Dr. Young and I are still friends.

*Read by invitation at the sixty-third annual meeting of the Medical Society of Virginia, in Richmond, November 1-3, 1932.

Until today I have kept this vow, but when your President and my friend, Dr. Harrison, told me that his regard for my father, the late Dr. William C. Dabney, Professor of Medicine at the University of Virginia, was one of his main reasons for inviting me to address your society, my reverence for my father's memory, with a pride in the fact that after thirty-eight years he had not been forgotten, compelled me to accept.

My decision made, I racked my brain for a suitable subject. The tonsils, or any subject even remotely allied to them, it certainly could not be; "A burnt child dreads the fire." Finally, I recalled that, with the exception of the *humanities*, my father had been more interested in the *educational* side of medicine than in any other. This fact, taken in conjunction with my own unusually broad training and experience, led me to choose *Medical Education.*

I was naturally aware that Medical Education is a highly controversial subject, but it seemed to me that a general practitioner, who, in addition to thirty-odd years of practice, had served some four years on the resident staff of the Johns Hopkins Hospital under Osler, Halsted, Kelly and Williams; had acted as superintendent of a general hospital; had been a member of the Maryland State Board of Medical Examiners; and, during the entire period of his professional life, had been closely associated with the leading members of the medical profession in his state, was better qualified to speak on this subject than on any other. Besides, as the experience I have just related, which dealt with a purely technical topic, was far from reassuring, I decided that "if hung I must be, it had better be as a knave than a fool."

The third of a century covered by my medical life has witnessed the most momentous changes in medical education in the United States that have ever been known. With these changes you are all familiar, and for the purposes of this address it is only necessary to

compare the conditions which existed in most medical schools at the time of my graduation with those of today.

In 1896, the minimum requirement for graduation at the University of Virginia was the satisfactory completion of a two-year medical course, and even the two-year requirement had been in effect for less than ten years. No preliminary education, in any sense comparable to that which is almost universal today, was required, and after graduation a man could, if he so elected, immediately enter into practice. True, state boards of medical examiners were functioning well in most states and acting as powerful protectors to the public against inroads by charlatans and undesirable practitioners, but, despite this, the general state of affairs was far from ideal. Further changes were necessary and inevitable if medicine, which was still in its youth from the standpoint of science, was to take its place among the acknowledged scientific pursuits. With this end in view, the changes came rapidly, and the present four-year curriculum, with its requirements before and after graduation, has now been in effect, the country over, for a number of years.

In common with most people, I am in full sympathy with the civilizing effects of education, but too rapid progress has sometimes been proven unwise, and frankly I am concerned with conditions as I see them today. I wonder whether, in their enthusiasm for the new science, the comparative handful of able men who were the driving force behind these changes have not neglected the *art* of medicine and the old *humanities*. Since the unit of all medical practice is admittedly the sick individual, as long as individuals differ, so long must the personal side retain its time-honored place in the treatment of disease—and this, no matter how many or great the advances of the scientific side.

For purposes of consideration, the subject may properly be approached from two angles: first, *what ill effects, if any, has the present system had on the intellectual, financial and spiritual life of the recent graduate;* second, *what ill effects, if any, have resulted to the general public?*

I think it will be generally agreed that the graduate of today is, from an educational and cultural standpoint, a far more finished product than his predecessor of some thirty years ago, but, to my mind, he is lacking in certain perquisites to idealistic practice. As a result of membership on the visiting staff of two large general hospitals in Baltimore, I have for a number of years had the opportunity of observing the attitude of successive crops of internes. Almost invariably I have found them upstanding, efficient and well-trained young men, in a word, good doctors, but, with few exceptions, their attitude toward the individual patient has been distinctly impersonal. Moreover, a number of these internes, while bowing without question to the opinions of the chiefs of staff, show a decided tendency to belittle the opinions of the older practitioners. Such a tendency though unjustifiable is, I confess, not unnatural in view of their training. The fault is not so much theirs as that their preceptors have failed to impress on them the fact that *experience* is the greatest of all teachers.

This failure tends to the development of *intellectual standardization*, which in itself is undesirable, but especially so in medicine whose very uncertainties call for a creative type of mind. To put it logically, if judgment is an integral part of the intellectual process, and if judgment in the practice of medicine is largely dependent on accumulated experience, then it follows that any failure on the part of the recent graduate to avail himself of experience tends to limit his judgment.

Again, there are certain internes who, according to my observation, have reacted to their training in an entirely different manner. As a result of having been thrown into more or less intimate contact during the formative period of their intellectual lives with men, their instructors, whom they can never hope to equal, an inferiority complex, as it were, has developed and a timidity in diagnosis and judgment has resulted,—an undesirable consequence and one which may persist for years.

Fortunately, there are not a few internes who have realized, as have most of us older men, that the ideal approach to a professional career is an early appreciation of the fact that, in spite of the many epoch-making advances, the sum total of medical knowledge is still pitifully small, and that even the acknowledged leaders of our profession are leaders not so much by virtue of the profundity of their knowledge as because they are still eager students, constantly in search of an increase in

knowledge. Each member of this group of internes fully realizes that medicine is a hard task mistress, and that if some day he hopes to take his place alongside the elect, he must marshall his every force, his own intimate and critical study offset by the experience and opinions of others, and finally to reach his conclusions by keeping an open mind and by thinking for himself.

To sum up, it appears to me that whereas the modern system gives great and undeniable advantages, it has failed to put sufficient emphasis on certain essentials, and as a consequence has at times produced a lack of initiative and a possible submergence of originality of thought.

Next—What ill effects, if any, from a financial standpoint, has the modern system brought about?

The present curriculum and requirements before and after graduation certainly compel the expenditure of a large amount of money, so large, in fact, that few graduates can afford to settle in the country districts. The result is that today, in spite of the increased number of students enrolled each year, the country districts are largely destitute, and the old-time *country doctor*, than whom no more unselfish and devoted servant of the public ever lived, is almost a thing of the past—a most unhappy result! Surely, a method of education which, forgetful of the fact that the ancient ideal of medicine has always been *unselfish service*, has forced its graduates to become traitors to this ideal, is deserving of criticism.

I know it has been argued that with the advent of the telephone, the automobile and good roads the country doctor is no longer the necessity he once was, and to a certain extent this is true. But, down in our hearts, is there anyone among us who thinks that the town or city doctor who, in response to a telephone call, drives out into the country and, after examining the patient, advises his removal to the hospital, is in any sense as valuable an asset to that community as the old time country practitioner who lived in their midst and was not only the servant of the sick in time of need, whether by day or by night, but neighbor, friend, counsellor, and well nigh priest?

The privilege of practicing in the country and reviving the old order denied him, the beginning practitioner of today locates in either a city or a large town, and gravitates almost immediately into specialism. In view of his education and training, nothing could be more natural. His preceptors in the medical school were, practically without exception, specialists, as were the chiefs of staff in the hospital where he served his interneship. Inevitably then he has drunk deep of the advantages of specialism, its far greater pecuniary rewards and its greatly lessened hardships. So to specialism he turns, unless compelled from pressing financial reasons to take up general practice.

Important as the effects of the present system have been on the intellectual and financial status of the recent graduate, they are, in my opinion, not nearly so important as the effect it has had on his spiritual side. If one grants, as I think we all do, that the ideal of medicine is unselfish service, it follows that any system, no matter how perfect otherwise, which tends to defeat this ideal is in itself imperfect.

It is evident then that there is something amiss, if from financial reasons this system prevents a man from following the calling of the country doctor, and from the same reasons forces a too great percentage of the town and city doctors into specialism to the exclusion of general practice. I do not mean by this to decry all specialism. Specialism in this day of modern medicine is a necessity and many specialists are true idealists, but I wish with all my power to protest against certain evils which I believe have followed insidiously in its train.

I think it would be generally conceded that specialism is largely responsible for the *high cost of sickness* today. Unfortunate as this is, it is in my opinion not nearly so disturbing as the fact that the practice of specialism has so shaken the corner stone on which medicine rests that in many instances the former *servant of the sick has now made the sick his servants.*

It is probable that the rise and brilliant progress of modern surgery is largely responsible for the incidence of this state of affairs, and that the changed and changing conditions of modern life, and especially the modern hospital, have greatly advanced it. When one remembers the unwarranted fear of hospitals which was so widespread as late as thirty years ago, the present preeminence of the hospital is almost incredible.

It has been said that these changes were brought about by a well organized and determined propaganda inaugurated by certain members of our profession. This may or may not be true, but if true I am sure that all those

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who participated acted in good faith, with the welfare of both the public and medicine at heart, and that none of them foresaw that the changes would be in any way detrimental to the ideals of medicine.

The practice of hospitalization of patients whenever practicable is susceptible of at least two conclusions as far as the physician is concerned: a lessened degree of personal service to the sick individual, and an enlarged opportunity to attend more patients in a given time.

Now if universal hospitalization were of undoubted value no one could criticize, but actually is it? My own experience with operative cases which concededly call for hospitalization more frequently than any others has certainly not proved it to me. Some years ago it was the general custom among the surgeons of Baltimore to operate on patients in their own homes—not only in Baltimore city and the surrounding country, but even in adjoining states. It was my good fortune to assist at many of these operations and, as far as I have been able to discover, the results compared favorably with those obtained in hospitals.

Furthermore, for one year, at the beginning of my professional career, I was in charge of the Out-Patient Obstetrical Department of the Johns Hopkins Hospital, and my results were equally as good as those of the hospital itself. Today it is a rarity to hear of a modern mother of the upper classes having a baby in her own home. I wonder why?

Medicine and nursing are interdependent professions, and with the attitude of medicine compelling intensive and prolonged education and insisting, as far as possible, on the hospitalization of patients, it is but natural that the nursing profession should fall into line. The present regime of a three-year course as a requirement to graduation in nursing has resulted. This in itself would seem questionable, and when one recalls that the graduate nurse of today can, if she so elects, decline to nurse anywhere except in a hospital, and, in addition, can pick and choose the type of case she is willing to nurse, it is evident that a system which permits this is lacking in the humanities.

With regards to the ill effects, if any, on the public at large, there is little more I can say. The subject has often been exhaustively discussed. But I would like once again to emphasize that a system which has apparently resulted in a dearth of general practitioners in both town and country, a too great increase in specialism with its attendant evils, and a lessened respect for the art of medicine, its spiritual side especially, has probably worked a hardship on the public, no matter if the opportunities for successful diagnosis and treatment are greater than ever before.

But it might be argued: Granted that there may be a modicum of truth in all this, what corrective at this late date is possible? The present curriculum certainly cannot be changed, even if it were desirable, and this is at least questionable. The present hospital system too is universal and so closely interwoven with the practice of medicine in all its branches that surely it cannot be radically changed. If changed at all along the lines suggested, fewer patients would be hospitalized with serious effects on institutions invariably hard pressed for funds. In addition, such enormous sums are already invested in hospitals the country over and so many employees are dependent upon them for livelihood, would not any change be calamitous? The correct answers to these questions I confess I do not know. In fact, I do not know that there is any specific solution for the problems involved. Today, both medical education and the practice of medicine, in the cities especially, tend more and more to take on certain characteristics of "*Big Business*," and this is doubly disturbing now that "*Big Business*" and its sinister offspring, "*Standardization*," are on trial for their very lives. My own feeling is that if "*Big Business*" is to survive, it will be increasingly encumbent on every one connected with it, from the highest to the lowest, to so order his life and actions that the universal outcry will be, "Well done, thou good and faithful servant." And this essentially is my confession of faith in the future of medicine if governmental control is to be ultimately avoided.

With respect to medical education, I fear that nothing can now be done. I had hoped that the change from the two to the four year curriculum would be sufficiently slow to permit of a division into two great branches, the *vocational* and the *scientific;* the requirements for graduation in the vocational class to be a three, or at most four year medical course, confined largely to the practical and clinical sides, and requiring as a preliminary only a high school education; the scientific group to retain the curriculum and requirements before and after graduation of today: this group to be dignified by the title M. D. D. S., (Doc-

tor of Medical Sciences), the first group to retain the present M. D. To safeguard the public and at the same time to limit the field of entry to those whose purpose it is to make the practice of medicine their life work, the present scope of state examining boards might be broadened so as to make it compulsory on each holder of an M. D. degree to stand an examination on the *advances* in medicine at stated intervals. As a further incentive to his continued intellectual activity, it might be arranged that each holder of an M. D. degree have the privilege of presenting the outline of a constructive idea to a learned committee of his fellows, such a committee, for instance, as the committee on scientific research of his state medical society. It would be the duty of this committee to give careful consideration to any such presentation, and, if it be found sound, to assist the proposer to either work the idea out alone or in conjunction with others especially fitted for such purposes. As a further incentive, it might be arranged that any successful exponent would be automatically advanced from the M. D. to the M. D. D. S. class. Many of us from time to time have heard promising ideas advanced which, from lack of opportunity for development, have remained still-born, and it is common knowledge that a large proportion of the advances in medicine so far have been made by men imperfectly trained according to modern standards. Who then can say but that if some such plan were put into effect now it might not bring to light some new star in the medical firmament?

The question of the hospitals and their maintenance is too vast and intricate a subject for me to attempt an answer. As a result of my experience as superintendent of a hospital, I was until of late convinced that if we could successfully solve the problem of the sick person of moderate means the remainder of the problem would not be so difficult.

Some years ago a possible solution occurred to me. As a consequence I approached a patient, a personal friend of mine, and suggested that he donate annually a comparatively small sum for the purpose of partially endowing hospital rooms for patients of moderate means. I pointed out to this gentleman that in giving annually the interest on a comparatively large sum, instead of the principal, not only would he do equally as much good, but the principal would remain in his possession and the amount of his donation be deducted each year from his income tax. Moreover, I pointed out that if the plan proved effective it might be an opening wedge toward its general adoption. He thought well of the idea and gave me a thousand dollars, his sole proviso being that, as far as I could, I would see that it was expended on deserving people. For some five or six years he renewed this donation and it did a great deal of good, but, although I fully explained the idea to each member of the staffs of two hospitals with which I am connected, it was not taken up, for what reason I have never been able to discover.

The present depression makes such a plan impossible now and none other comes to my mind unless it be something modified after the Irish Sweepstake scheme, which, according to the daily papers, has not only freed all the hospitals in Ireland of debt, but supports them comfortably. Personally I can see no reason why we should not take a leaf out of the notebook of our national government which, recognizing the inherent tendency of all mankind to gamble, has instituted a tax on every stock transaction on the New York Stock Exchange. Surely, there is very little moral difference between such taxation and a tax for charitable purposes on the proceeds of a lottery. The law, however, says otherwise. But laws *have been* changed.

This, gentlemen, concludes the ideas which have slowly crystallized in my mind during the past third of a century. Many of them are probably impractical, many of them far-fetched, and many of the conclusions I have drawn perhaps unjustified; but of one thing I feel certain and this is that if medicine, which until now has always occupied a position in the minds of men second only to the priesthood, is to continue to occupy this exalted position, we *must* teach each succeeding generation to keep its spiritual fires burning and its ideals of unselfish service alive. Surely, I might add the need for the one was never more pressing or the opportunity for the other greater than now.

To this end nothing is so helpful as example. Among our illustrious dead two such stand out, Sir William Osler and Sir James Mackenzie. No man of our time was more generally beloved by the profession than Dr. Osler, "The Chief" as we of his Hopkins Staff affectionately called him. Dr. Osler was a great physician, a great teacher, a great man of letters and a great humanist, but I believe that history will record as perhaps the great-

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est of his achievements the part his unique personality played in elevating the professional ideals of the English speaking world.

I imagine that few, if any of us here present, knew Sir James Mackenzie personally. I, for one, was never so privileged, but I feel sure that no one could read the life of this extraordinary man without being thrilled. A knight-errant in quest of the Holy Grail, he scaled the heights of professional fame only to find that that which he sought was not there, but in the valley of general practice whence he came. True knight that he was, he straightway retraced his steps, and for the remainder of his days continued his search unceasingly.

Let me then urge each graduate and prospective graduate to read, in all humility, the lives of these two, than whom none have ever more truly combined the science and the art of medicine with the humanities. After so doing, let me urge each one to put to himself that age-old question of the Christian faith: "For what shall it profit a man if he gain the whole world and lose his own soul?"

For my part, throughout my entire professional career I have had such an example in the life of my father who, dying at the age of forty-five, left as his children's greatest and almost sole heritage a simple granite shaft in the little cemetery at the University of Virginia, with this inscription: "Erected by grateful patients and friends as a memorial to his charities, his labors, and his skill."

PERSONAL IMPRESSIONS OF TRANSURETHRAL PROSTATECTOMY.*

W. W. S. BUTLER, JR., Roanoke, Va.

The subject to be discussed will interest the 20 per cent of you who are soon to begin having prostatic trouble. My observations are based on twenty-three resections done by myself and on conversations with and cases of others whom I have seen do this work. If you will have in mind the ordeal of a prostatectomy and discomfort and odor of urine saturated dressings for weeks, and compare that with a succession of feeble old men whom you see return from the operating room smiling and within a week able to void in comfort, you will agree with Lowsley's statement that this is the outstanding medical work of this decade. This gives me an opportunity to tell a story: You remember about the ugly duckling who was the scapegoat of the barnyard and later turned out to be a beautiful swan. Now urology with its drudgery of venereal disease has been the ugly duckling among the various branches of medicine and has not turned out to be a beautiful swan but at least we will say has become a proud peacock.

Two years ago at the American Urological Association Meeting in Memphis, Dr. Davis reported one hundred cases done by this method. His results seemed too good to be true. The concensus of opinion among many eminent urologists was that we had best wait and see. This has been my course. Reports are now available in above two thousand cases. A survey of an equal number done by each method in the past five years in the same geographic area shows a recurrence morbidity of twenty-three to one in favor of resection. Further, the reception accorded Dr. Davis by the New York Branch of the American Urological Association eliminates doubt in my mind as to the practicability of the procedure.

Since 1830, the urethral approach to the prostate has been endemic in medical literature. Up to the present, the instruments have depended on a notch in which the obstructing tissue projects and is promptly guillotined with an uncertain amount of bleeding and more uncertain amount of charring and scarring of the urethra. A legacy from these methods is the impression that only a certain type of obstruction is suitable for resection. With the modern instrument, the situation is entirely changed. The resectoscope works on different principles. There are three essentials: cutting without scarring or profuse bleeding, control of hemorrhage, and complete visibility. The electric loop and unit which has been perfected by Dr. T. M. Davis, of Greenville, S. C., not only cuts rapidly but permits a searing of the surface which controls hemorrhage and checks absorption from the lymphatics. Bleeding points are coagulated by merely pressing the other switch. There is an added advantage that a large amount of tissue can be removed with little trauma, because the sheath remains in its position. These essentials have not come through the efforts of any one man. The ingenuity of the cystoscope manufacturers has made possible the remarkable telescopic and lighting system by which we can see clearly in a dark cavity oozing with blood as is the case in the posterior urethra.

The statement should have been included

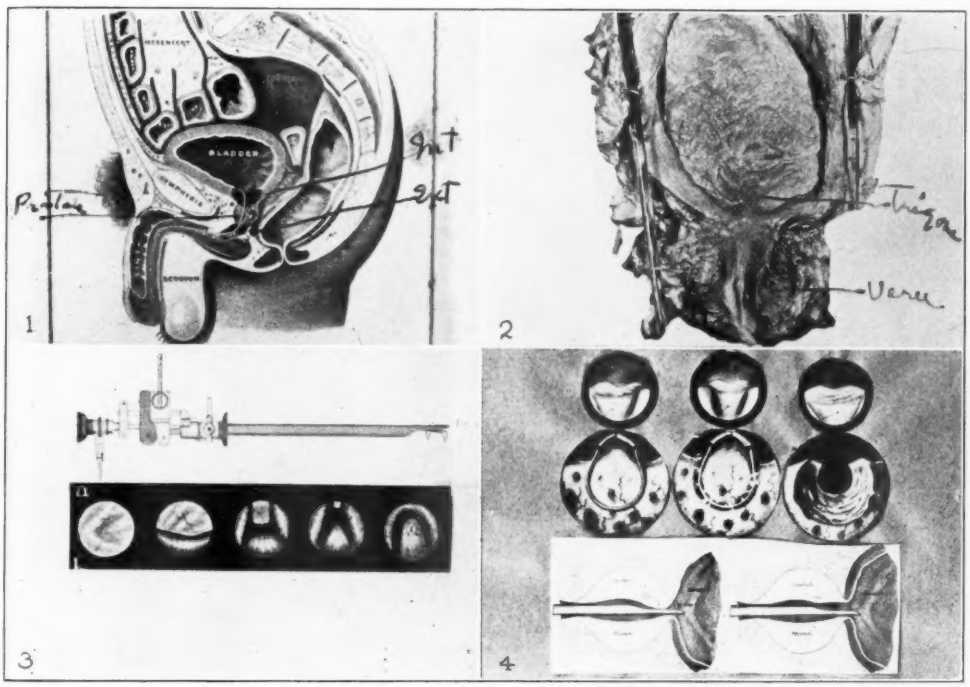
*Read before the Southwestern Virginia Medical Society in Roanoke, September 21, 1932. Cases treated between that time and date of publication have been included.

that in this list of essentials the anaesthetic, too, marks the progress of medicine; caudal block permits the entire procedure without pain or shock; low spinal anaesthesia has been entirely satisfactory. A small amount of avertin with nitrous oxide would permit this procedure with little risk.

Of the questions which have been asked, that of recurrence seems to be in the minds of most men. Experience of several years shows that it rarely happens; instead, the remaining portion of the gland shrinks when relieved of the irritation associated with the obstruction, just as occurs after a suprapubic drain. Other questions follow: control of hemorrhage, amount of shock, selection of cases, amount of tissue to be removed, interpretation of statistics, and the practicability of the procedure. These can best be answered by showing the instrument and its mechanics, and also the normal and pathological field in which it is expected to work.

These slides are taken from any source which will illustrate my point, in the main from Randall's Surgical Pathology of the Prostate which shows actual photographs with no retouching.

Each patient, as in any other condition, is an individual problem. First, to be considered are his general condition, age, mental attitude,



Slide 1. From Gray's Anatomy, merely to show the position of the sphincter muscles and the verumontanum, our anterior landmark. Also calls attention to what we would expect to feel on rectal examination. As long as external sphincter is preserved there will be no incontinence. The internal sphincter muscle is usually destroyed by the growth or at operation and prevents semen from being thrown back into the bladder instead of going forward.

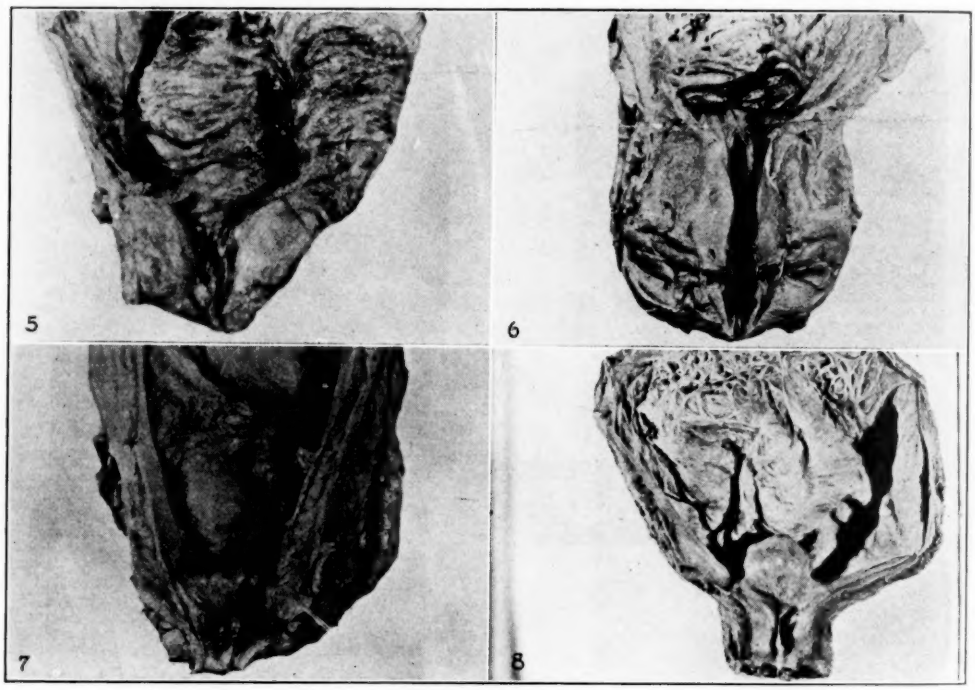
Slide 2. Shows the urethra and the verumontanum, a fortunate provision of nature to mark the anterior border of the prostate and the position of the external sphincter muscle.

Slide 3. Shows McCarthy resectoscope with loop in advanced position and half way back. Lower portion shows endoscopic views as instrument is withdrawn from view of bladder down posterior urethra, disclosing vesical lip, prostate, and finally the verumontanum, our anterior landmark. With the eye of the instrument at this position, we should see the floor of the bladder after resecting the obstructing tissue.

Slide 4. A schematic view of instrument in position to make lateral cut. B. Same as seen before and after cut from in bladder. (Stirling). C. Views of trigone as seen before and after cutting median bar. (Clyde Collings).

cardiac condition and amount of renal toxaemia which I believe is determined better by blood urea than by pthalein elimination. Then local symptoms are degree of difficulty in voiding and frequency and bleeding. For a physical examination, the cystoscope is not available to a man in general practice but he can make a rectal examination and can determine the amount of residual urine. Either may be very misleading if taken alone; large lateral lobes may feel like a presenting head and yet the patient may completely empty his bladder, while a median lobe, large or small, may not be felt on rectal examination and yet produce a tremendous residual. The rectal examination is our best guide as to malignancy. The residual urine is a guide to the amount of obstruction relative to compensatory hypertrophy of the bladder muscle. It is the balance of power between these two which determines the damage to the kidney.

Forearmed with a knowledge of the size and consistency of the gland and the amount of residual, there remains the cystoscopic to determine the tissue projecting into the bladder and urethra to be removed as well as the muscular reaction on the part of the bladder and possible presence of complicating factors as stones and diverticula. Before removing the cystoscope, the position of its beak relative to a finger in the rectum checks the size of the gland. My routine is to take a plain X-ray



Slide 5. From a patient dying of pneumonia in whom a successful punch operation had been done. Note that base of bladder would be seen from the verumontanum.

Slide 6. Shows marked lateral lobe hypertrophy. On rectal examination a large mass could be felt. Entire bladder has been pushed up instead of the gland protruding through the muscle. The interesting feature of this type is that they have attacks of retention and periods of complete relief. This advanced case had best be done by open operation. If very poor risk, resection would give relief.

Slide 7. Compare preceding with this specimen in which posterior commissural fibres have produced the obstruction. Note sharp drop and that the obstruction is at the strategic point producing large residual, though on rectal examination no enlargement would be felt. This type is ideal for resection.

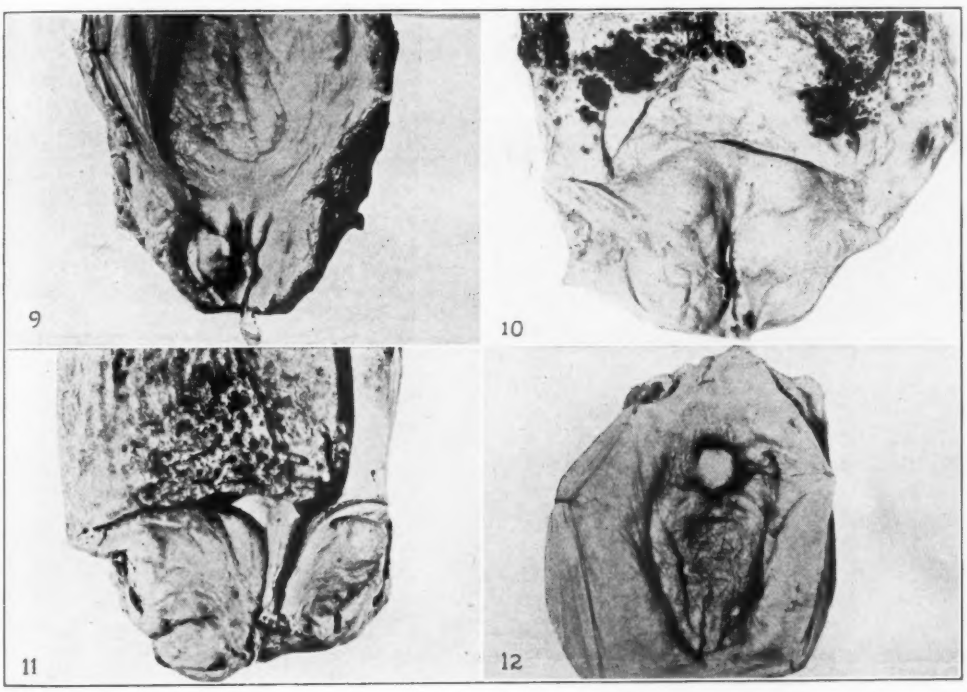
Slide 8. Commissural fibres further hypertrophied project through trigone and are associated with some lateral enlargement. An obstruction of this type would not admit a view of the trigone through the cystoscope.

and cystogram on admission and defer cystoscopy until later.

From a mechanical point of view, there are five main groups to be considered, lateral hypertrophy, median hypertrophy, a combination of the two, malignancy and fibroses, that is, obstruction without demonstrable enlargement of the gland. All of these lend themselves to this method if taken early. The problem is illustrated more easily than it can be described.

My case reports are limited to twenty-three patients treated at the Jefferson Hospital. The clinical result has been entirely satisfactory in fourteen and in three more after a second operation. Three are listed as improved and feel much better but, since there are co-existing conditions, there has not been time to express an opinion. One was unimproved due to lack of cooperation on his part and inexperience on mine. He was a carcinoma with profuse bleeding and left hospital against our advice. There were two deaths; both had been catheterizing themselves for a long time. The first was an emergency but the second would have been prevented by a period of suprapubic drainage.

Case No. 9 was of interest in that he would



Slide 9 Early trilobar hypertrophy suitable for resectoscope. This picture invites our miniature steam shovel to open the road and shows too the advantage of early treatment.

Slides 10 and 11. These represent more advanced cases of trilobar hypertrophy. No amount of rest and dilatation will alter residual urine. Elbow catheter works best. Rectal examination shows gland very broad and a broad shallow groove Cystoscopic examination shows anterior and lateral clefts which do not meet. On combined examination beak of cystoscope not felt. Whether to advise resection or open operation is a question. After a groove is made which permits voiding there may be a marked retraction of the gland. With a very poor surgical risk, trans-urethral resection should be advised. These cases taken early can be handled best with resectoscope. My judgment in an advanced case of this type, if a very poor risk, is to send him with a suprapubic tube or retention catheter and force fluids for a while. This again stresses the advantage that this minor procedure has because by taking away the dread of a major operation we should get them before they reach this stage.

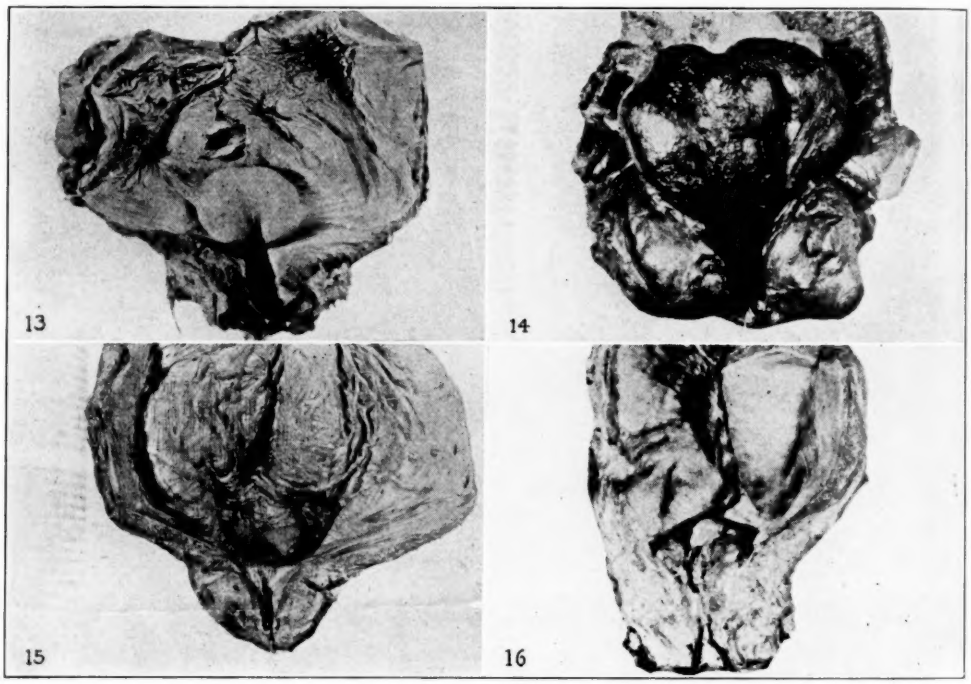
Slide 12. This presents another problem, too large for a punch but admirably suited for the resectoscope. These are hypertrophied urethral glands arising between the verumontanum and posterior lip, and produce an obstruction all out of proportion to the size of the gland. Described by Albarran. Not felt per rectum. On cystoscopic examination, a fissure is noted on each side and instrument will not stay in mid-line but slips into fiissure and may be felt there per rectum.

have been inoperable by the open method. A fibrosis was present and he developed a complete retention. A suprapubic tube was put in and, after three months' drainage, N. P. N. remained above 80 with pthalein 15 per cent in two hours. The odor and discomfort were so unbearable that a resection was done. A few grams of tissue was removed with complete relief and suprapubic wound closed promptly.

Of seventeen cases, fourteen left the hospital in approximately a week after operation but remained in the community another week. The longest stay after operation was in one of the three which were repeated and he left thirty-one days after the first operation. Catheters were removed from fourth to sixth day. There has not been time to say how long urine will remain cloudy; healing is slow even with no residual. In two epididymitis appeared but caused little pain.

In the three in which it was necessary to repeat the procedure, there was fortunately very little pain after the first operation and they lost only the time on account of it. Dr. McCarthy speaks of risk of pyelonephritis following second resection in a short time.

In a most instructive article recently published by Dr. Montague Boyd, of Atlanta, four cases were reported in which the gland was removed by the suprapubic method due to previous failure of resection. From four to seven and a half grams had been removed in each instance. He states that cutting the vesical sphincter probably accounts for at least part of the relief from urinary obstruction which is generally obtained by resection, and



Slide 13. More advanced. Consider how little raw area would probably be left after resection of this.

Slide 14. Shows extreme degree sometimes attained by these glands and in this instance is shown to illustrate that it was not felt per rectum. The preceding, of urethral origin and the posterior commissural type are both clinically median lobe enlargements and most suited to the resectoscope. In this instance, the open method would have been preferable.

Slide 15. Fibrosis—large residual with hypertrophy of trigone and trabeculation of bladder wall. No rectal enlargement. Instrument gripped tightly and fibrosis may draw verumontanum close up to posterior vesical lip. Note sharp drop on entering bladder.

Slide 16. Carcinoma. Obstructing portion can be removed and relief given with little shock. No more can be done by any other method.

obtained in spite of the inflammatory reaction which occurs about the resected area and regardless of the loss of the assistance which the pull of the trigonal muscle on the vesical sphincter offers in voluntary urination.

In my work from three to fifteen grams has been removed. This of course depends on the individual gland but with experience more tissue will be removed.

The immediate relief which these old men experience, their improvement in appetite, arthritis and other toxic symptoms are indeed gratifying. Their gratitude is further accentuated by the fact that there is so little discomfort during and after operation.

This brings up another point, the reduced cost. There is an average stay in the hospital of one week after operation, usually without the need of a special nurse. Note that I say after operation, as the time and expense mounts up during the period of preparation with either a suprapubic tube or retention catheter. In extreme cases, there is less absorption from the suprapubic tube and chances of recovery better. Another complication attending the catheter is epididymitis. If this has not already occurred, it is not likely to follow the operation since we close the lymphatics as the surface is seared in making the cuts and further we are working posterior to the opening of the ejaculatory ducts. These drawbacks and the additional risk are avoided by taking the men earlier. If there are indications of discomfort in the posterior urethra associated with enlargement of the gland, it is not necessary to wait until a residual develops.

In calling attention to the brief hospitalization for this work, it is not my intention to minimize the technical difficulties of the procedure. We are working in a cavity distorted from the normal by a new growth or fibrous contractures and further distorted as we make our cuts. We must be in the position of the engineer who knows where he is at all times, whether his signs are visible or not. To do this a careful examination beforehand of just what tissue is to be removed is essential and this takes a determination of residual, a rectal and cystoscopic as well as a bi-manual examination. Frequently, even then, it is necessary to remove a few tags at a subsequent treatment.

In conclusion, let me say a few words about statistics. We have a tremendously widened margin of safety; we also have a shelf loaded with sufferers inoperable by former methods. One has to lose at the expense of the other.

With the adoption of resection, the open operation becomes unusual and the punch is obsolete. It opens a new field, prevention. We look forward to the time when the urologist will not have to contend with procrastination on the part of both physician and patient but will see the patients before they are seriously crippled by their disease.

609 *Medical Arts Building.*

OSTEOMALACIA.*

FRED J. WAMPLER, M. D., Richmond, Va.
Department of Preventive Medicine, Medical College of Virginia.

Osteomalacia is a disease of the bones in which they become soft and yielding, and thus often undergo marked changes in shape owing to the mechanical action upon them. The bones of the pelvis, back, thighs, arms, and chest are attacked most frequently, but any of the bones of the skeleton may be affected. The disease attacks adults more than children, and females more than males. In women it usually begins in pregnancy or during the nursing period, but it may have no relation to childbearing.

Osteomalacia is characterized by p a i n, usually beginning in the pelvis or lower lumbar vertebrae. The earliest symptoms are often those of tetany, the patient complaining of numbness of one or more of the extremities. Carpopedal spasm is often present before the pains begin in the pelvis and lower lumbar region. Later on there may be pain in the thighs, upper vertebrae, arms, and ribs. There is much pain on active and passive motion when the disease is at its height. The areas affected are tender to the touch. Because of the pain and tenderness, the patients object to moving and being moved. The woman sits up, usually leaning forward, supporting her arms and head on a pillow or prop. If the disease is not very severe, and the patient can walk about, the gait is waddling, the feet being kept far apart. In other ambulatory cases, the body leans forward, the patient supporting herself by a cane or by the furniture in the room. The attitude of leaning forward is to support as much weight as possible from the shoulders because of the greater pain in the back, pelvis, and thighs.

After several years duration, the body is

*Read before the scientific meeting of the faculty and staff of the Medical College of Virginia, April 21, 1932.

left four or more inches shorter than its normal height, and if kyphotic changes in the vertebral column have taken place, the shortening may be still more. Small nodules can be sometimes felt on the ribs at this time.

When the disease is severe, the patients are usually anemic and look much older than their age. Tetany is present in many cases, and this condition is especially prominent when the pains are severest. The disease is usually worse in winter. Pregnancy and nursing aggravate the condition. The alveolar processes are often affected, and the teeth loosen and may fall out, but dental caries, in the writer's experience, are not frequent.

In China the disease is most prevalent in the central belt of Shansi Province. Shensi and Kansu Provinces in the northwest, and Manchuria, in the northeast, are other centers. A few cases have been reported in other parts of China. Maxwell and Miles (1925) have given its distribution in detail. In 1921 a survey was made in Ping Ting county, which is in east central Shansi. Six villages and two city suburbs were thoroughly canvassed. The villages, where the people depend upon agriculture for occupation and living, had a much smaller incidence than the suburbs of the city. A disease incidence of 1:45 was found among the adult women in the suburbs, and 1:173 among the women in the farming villages. The incidence would be higher than this if only women of the lower age groups were included, since the osteomalacic women contemporary with the older normal women, have largely died off in childbirth.

The survey showed that the disease was more prevalent among the upper and middle classes than among the poor. Very few really poor women were affected. It attacked women who took little exercise and who were deprived of sunshine. A common saying of the people was that it was a "lazy woman's disease." Some patients made special efforts to get about, thus hoping to prevent the progress of the disease.

Following the survey, a careful study of as many cases as were willing to cooperate was begun. In this study of sixty-seven cases it was found that more than 75 per cent of patients with osteomalacia had tetany at one time or another; 28 per cent had a positive Chvostec sign; in 31 per cent the disease began during pregnancy, and in 39 per cent during the nursing period; one-third of the cases reported edema over the affected parts; 80 per cent of the patients were worse in winter and spring; and in 39 per cent the teeth were painful and loose. The dental symptoms disappeared when the general osseous condition improved. All the affected women and girls had bound feet. The average age at which forty-six patients began menstruating was slightly above the normal average for women in this district not affected by the disease. In five cases the disease commenced before menstruation began; in one case six years before, and in another four years. In only one patient the disease had continued in a severe form after the menopause.

The history of the average case would be something like this: Osteomalacic pains, following premonitory numbness and carpopedal spasm, began during the first pregnancy or nursing period following, or during, the second pregnancy. The labor following the initial attack was usually normal and resulted in a living child. The disease remained rather severe during the nursing period. In the next pregnancy the symptoms returned, often more severe, and by this time much deformity in body and pelvis was produced. If there was spontaneous delivery it was after a much prolonged labor and generally with dead child. The third delivery after the onset of symptoms was usually impossible for a living child by the natural route, and often impossible for dead child except by Caesarean section. In many cases the condition developed more slowly than the above.

The diet of the normal women in the belt of Shansi mentioned above was sufficient in calories but was very restricted as to variety. Little meat was eaten by them; vegetables and fruits were very limited, especially in winter; milk and butter were never used; and eggs were seldom eaten. Millet, corn bread, white bread, a salted vegetable, and a fermented vegetable somewhat like sauerkraut, made up the diet. Small amounts of cabbage (*pai tsai*) were used in season. Sesame and hemp seed oils were mostly used in frying.

The diet of the puerperal woman was very deficient in calories and was also poorly balanced from the chemical as well as the vitamin standpoints. The lying-in woman in the Pingtingchow region received nothing but a very thin millet soup the first ten days and this was added to only very gradually the next thirty days. Only after the seventieth day was she allowed a full diet. According to Neal (1916)

the caloric value of the millet received daily during the first ten days is approximately 246.

The women, whether rich or poor, lived in very similar sanitary surroundings. The windows were generally set far in beneath deep eaves and were covered with white or brown paper. Thus sunshine seldom reached the living quarters. The rooms were often dark and ventilation was poor, especially at night. The rooms were heated by the *k'ang*, which is a combination bed, stove, and sitting place. The *k'ang* was elevated about eighteen inches from the dirt or brick floor and was built of bricks and mud bricks. It was heated from a grate which was usually built at the junction of the *k'ang* with the floor, so that the fumes from the coal fire could either escape into the room or pass out through a tortuous flue just under the surface of the bed. Some of these flues opened on the inside of the room rather than on the outside. In that case much coal gas escaped into the room, but there was considerable coal gas even where the flue opened outside because of the opening into the room at the grate. Moreover, the flues were often defective, allowing gas to escape into the sleeping room. Those who worked in the kitchen also were in an atmosphere of coal gas much of the time, since there was no flue or chimney to the stove, all gases and fumes coming out into the kitchen. In this room the ventilation was so much better that carbon monoxide poisoning was not so likely to result. This constant living in an atmosphere of coal gas might have had some influence on the disease.

This form of heating tended to keep the women sitting on the *k'ang*, since the rest of the room was cold. As the disease progressed and movements became painful, the tendency was to spend more and more time sitting on the *k'ang*.

Etiology

One of the earlier opinions of the cause of osteomalacia was that of Fehling (1884) who suggested that the disease was due to a trophoneurosis of ovarian origin. He believed that the changes in the ovaries gave rise to reflex stimulation of the vaso-dilators supplying the bones. In favor of this view are the brilliant results that often follow castration in this disease. According to Koltonski (1921) about 87 per cent of the cases are cured by oöphorectomy. His own case, however, failed to improve until epinephrin, cod liver oil, and phosphorus were given, and he advises castration only as a last resort. McCrudden (1906) reports a case improved after castration, but a year later the patient had a return of all symptoms.

Before the discovery of vitamin D, a deficiency in vitamin A had been advanced as the cause of osteomalacia. In Vienna, Chick and Dalyell (1923) found that the diet of patients with osteomalacia consisted mainly of bread and vegetables with small amounts of flour and sugar. Milk, butter, and eggs had not been used. Lard was not always obtainable. Now a deficiency in vitamin D is thought to be the principal item in the etiology.

Hutchinson and Patel (1921) expressed the opinion that the lack of fresh air and exercise was by far the most potent factor in the production of the disease. Their work was done among the Mohammedan women of Bombay. An examination of a considerable number of persons failed to show that dietetic deficiency was the cause of the disease, as it was fairly common among the wealthier classes.

The belt of Shansi referred to above is located between the parallels of 37 and 39 degrees north latitude and 111 to 114 degrees east longitude, and the inhabited area lies roughly between 2,000 and 4,000 feet above sea level. The soil is largely loess overlying limestone, sandstone, and shale. Farther north cases occur in the Archean region. Water is boiled before it is used for drinking and some of the minerals are precipitated. Most of the cases in China and some of those in India occur at altitudes of 2,000 feet and above. Wilson (1930a), working in North India, found in the Kangra valley a heavy incidence among women and girls and quite a considerable incidence in men and boys. Here the average altitude was less than 3,000 feet. In this soil there was a deficiency in lime, phosphorus and magnesia, but the dietary was also deficient in vitamin D.

Srinagar, Kashmir, "where almost all Kashmiri women who have borne children are affected in some degree with the exception of the *manji* (boatman) class" (Vaughan, 1926), lies 5,000 feet above sea level in the Himalayan mountains. Simla is high (7,000-7,500 feet), but Lahore, Delhi, and Amritsar are lower elevations, and Bombay is at sea level. It is likely that the geology has but a very secondary influence, if any. Maxwell and Miles (1925) think it has but little to do with it.

Vaughan (1926) and Stapleton (1925) consider lack of sunlight as being the important factor in the causation of the disease and Vaughan says they are able to successfully treat their cases with sunlight alone.

From the study of all the facts at hand, and especially considering the writer's cases, the most probable cause is a deficiency of vitamin D, either through a lack of sunshine or in the diet. This view is supported by the greater severity of the disease in the winter and early spring months, when the diet in the Chinese cases is limited practically to millet, flours, and a very small amount of poor grade vegetables; when the ultra-violet rays from the sun are much reduced and sometimes eliminated, and when much more time is spent indoors; that all the cases are in people who are on a diet deficient in vitamin D and who live in dark rooms and fail to get sunlight to any extent on the body surface; that those who obtain vitamin D, either in diet or from the sun, though living in conditions similar in every other way to the above, do not develop the disease; that cod liver oil and viosterol will cure the disease, and that the yolk of eggs will stop the progress of milder cases. This theory is also strengthened by the frequency with which the Mohammedan and high caste Hindu women in India get the condition Most of the Moslem women live in strict *purdah*, which prevents the sun's rays from reaching their bodies, and the diets of the higher caste Hindu women are restricted because of religious mandates.

This theory would explain why the village women and the poorer women in China, who spend much time in the fields, have a much lower incidence of osteomalacia than their wealthier city sisters, and why the "untouchable" and poorer women in India, who must get out in the sun to make a living, are not affected to the same extent as are the secluded women in the same section of India.

Treatment

In times past oöphorectomy was reported as giving a large percentage of cures. In the Brethren Hospital in Pingtingchow this operation was not resorted to, as most of the women on whom Caesarean sections were performed were young, and important social questions would have arisen had the ovaries been removed. After Caesarean section, a number of the cases became permanently well, and many of the others were improved, even without removal of the ovaries.

In Europe cod liver oil has been used very much recently in the treatment of osteomalacia. Cod liver oil alone cured the cases of Dalyell and Chick (1921). Butter, margarine, and even olive oil were reported to be effective in lighter cases. Epinephrin and pituitrin were occasionally successful.

In the hospital at Pingtingchow, the treatments used were cod liver oil and calcium lactate, cod liver oil and calcium phosphate, cod liver oil alone, calcium lactate alone, calcium phosphate alone, phosphorus pills alone, and eggs alone. The best results obtained were with cod liver oil and calcium. This series did not show much difference between calcium lactate and calcium phosphate. One-half ounce of cod liver oil with ten grains of calcium lactate or fifteen grains of calcium phosphate were given morning and evening We had three cases under one year's standing on this treatment and at the end of one month all the pains had disappeared in two, and only a little pain in the ribs remained in the third, which later disappeared upon a continuation of the treatment. No patient given calcium lactate and cod liver oil failed to report progress after taking these remedies for two months. On this treatment the tetany disappeared in a few days; the pains were relieved generally after ten days but sometimes not until later. Four eggs daily cleared up a mild case returning with a second pregnancy.

Exposure to sunshine was advised for patients at home, but the hospital did not have quarters secluded enough for extensive sun baths. Since these cases could not be supervised in their homes, sun baths could not be checked. An ultra-violet light was not available.

The treatment at present is cod liver oil with viosterol. Some form of calcium is usually prescribed along with this. Irradiated foods and viosterol can help much by supplying larger quantities of the vitamin without giving excessive quantities of cod liver oil. Blumgart *et al* (1929) emphasize the need for large quanties of vitamin D for maximum improvement. Ultra-violet light and sunshine are of great help. In India, Wilson and Coombes (1930) found cod liver oil, sunshine and some form of vitamin D concentrate effective. Wills (1931) who checked her work with blood chemistry, used cod liver oil and ultra-violet light.

Vaughan (1926) in Kashmir used cod liver oil effectively. Hume and Nirenstein (1921) report the best results from large doses of cod liver oil in treating hunger-osteomalacia in Vienna.

Following the first series of cases studied and treated at Pingtingchow in 1922, arrangements were made with the Department of Obstetrics and Gynecology of the Peking Union Medical College to have work done on the blood chemistry and the calcium metabolism of a group of osteomalacic women. Miles and myself, in 1923, worked on the blood calcium, phosphorus, and CO_2 combining power on nine of the writer's patients, women in the Brethren Hospital at Pingtingchow, on which we obtained results reported by Miles and Feng (1925). The results of the study of the calcium intake and excretion were unsatisfactory and were not published. A smaller group (four women) was selected the next year and Miles, assisted by Feng, studied the blood chemistry and successfully concluded the calcium and phosphorus metabolism studies.

Some of the findings of the study on these two groups are reported here since they give the laboratory evidence for the clinical results the writer obtained on more than 300 cases treated in the hospital and out-patient clinic at Pingtingchow. Tables Nos. I and II show the blood findings in calcium and phosphorus before and after treatment.

TABLE No. I.*

Blood calcium and blood phosphorus of nine osteomalacic women on a fourteen day standard diet before treatment.

Patient No.	Blood Calcium per 100 cc. Serum mg.	Blood Phosphorus per 100 cc. plasma mg.
1	5.2	2.5
2	6.0	1.9
3	7.4	1.8
4	5.6	2.3
5	5.8	3.0
6	7.0	3.8
8	7.0	2.4
9	5.0	2.0
10	5.4	3.2

*Tables Nos. I and II in this paper are rearranged from Miles and Feng, while Tables III to VI are copied directly from their article in the *Journal of Experimental Medicine*, 1925, Vol. 41, p. 137.

In the first series the nine women were on an identical diet. Patients Nos. 1 and 4, treated with 30c.c. of cod liver oil and two grams of calcium lactate daily for fourteen days, showed an increase in blood calcium, respectively of 0.8 and 0.61 mgs. per 100 c.c. of blood serum. Two patients, Nos. 9 and 10, took 30 c.c. of cod liver oil only and had increases in blood calcium of 1.6 mgs. and 2.17 mgs., respectively. Two others, Nos. 6 and 8, were placed on a liberal diet of milk, eggs, and fresh vegetables in addition to the diet common to all. These both lost in blood calcium. Patients Nos. 2 and 3, treated with calcium phosphate, three grams per day for the same length of time, showed 0.2 mg. loss and a 1.3 mgs. gain. Patient No. 5 received two grams of calcium lactate daily. This one had an increase of blood calcium of 1.9 mgs.

TABLE No. II.

Blood calcium and blood phosphorus of nine osteomalacic women after fourteen days treatment.

Patient No.	Blood Calcium per 100 cc. serum mg.	Blood Phosphorus per 100 cc. plasma mg.
1	6.0	2.61
2	5.8	2.9
3	8.7	1.0
4	6.21	3.5
5	7.7	2.3
6	4.6	4.1
8	6.6	3.57
9	6.6	2.95
10	7.57	1.95

The clinical results showed that the four women treated with cod liver oil alone or combined with calcium lactate, were much improved, getting around the ward more easily and being more cheerful. The patients on a liberal diet were much worse, although they were both women with active disease of less than one year's duration. One of these women had a spontaneous abortion of a three months fœtus while under observation and failed to cooperate fully. The patients on calcium phosphate were worse, one of them to such an extent that she was hardly able to move about.

TABLE No. III.

Blood calcium and blood phosphorus before treatment in four women with osteomalacia.

Patient No.	Calcium per 100 cc. serum mg.	Phosphorus per 100 cc. plasma mg.
1	7.503	1.83
2	6.395	1.24
3	6.175	2.42
4	5.810	1.55

TABLE No. IV.

Blood calcium and phosphorus after treatment in four women with osteomalacia.

Patient No.	Calcium per 100 cc. serum mg.	Phosphorus per 100 cc. plasma mg.
1	8.62	1.83
2	8.197	2.10
3	9.57	3.02
4	8.58	1.64

Much more interesting were the results on the four women where the calcium balance could be checked. Tables Nos. III and IV show an increase of blood calcium in all four cases after treatment, but by examining Tables Nos. V and VI, one sees that patient No. 4 held a negative calcium balance after treatment, although her blood calcium had increased nearly three mgs. per 100 c.c. of blood serum. This woman did not receive cod liver oil as did the other three, but received instead olive oil, eight c.c. t.i.d., with one gram calcium lactate. In addition to 8 c.c. of cod liver oil t.i.d. for each of the three patients, No. 2 had one gram of calcium lactate and No. 3 had a gram of calcium phosphate added daily. All four patients were on otherwise identical diets. Patient No. 3 had a positive calcium balance before the treatment in this experiment began, but she had been through two series of cod liver oil and calcium treatments of one or more months each on the writer's service in the Brethren Hospital, the last course being completed only about four months before this first blood test. The results on these women would indicate that vitamin D is necessary, or the bone condition will not improve.

Some good work on calcium metabolism was done earlier. McCrudden and Fales (1912) reported a case of osteomalacia in which there was a negative calcium balance in a twelve-day experiment. McCrudden (1906) reported a case in which there was a daily loss of nearly one gm. of CaO.

More recently than the work of Miles, Feng, and myself on the writer's patients, Blumgart, Gargill, and Gilligan (1929) report a case in which the metabolism was carefully studied over a period of ninety-three consecutive days. During one six-day period a low calcium and phosphorus basic diet was given. In the second period 250 c.c. of skimmed boiled milk daily was added. In the third period 50 c.c. of cod liver oil daily was added to the second period diet. In the fourth period eighteen tablets of cod liver oil concentrate were added daily to the third period treatment. In the fifth period ultra-violet light was added to the fourth period treatment, and in the sixth period an increased dosage of ultra-violet light was added to what the patient had received in the fifth period. In the seventh period, increased

TABLE No. V.

Calcium and phosphorus intake and excretion before treatment of four women with osteomalacia.

Patient No.	Calcium Intake gm.	Excretion gm.	Balance 7 Days gm.	Phosphorus Intake gm.	Excretion gm.	Balance, 7 Days gm.
1	3.5630	4.0564	—0.4934	11.4857	8.6445	2.8412
2	3.2285	3.2779	—0.0494	10.0657	6.4382	3.6275
3	3.5630	3.1228	0.4402	11.4857	9.0404	2.4453
4	3.2285	4.0710	—0.8425	10.0657	8.5200	1.5457

TABLE No. VI.

Calcium and phosphorus intake and excretion with balances on four women with osteomalacia, after treatment.

Patient No.	Calcium Intake gm.	Excretion gm.	Balance, 7 Days gm.	Phosphorus Intake gm.	Excretion gm.	Balance, 7 Days gm.
1	3.5811	3.3836	0.1976	11.4983	8.5022	2.9961
2	4.4083	2.7712	1.6371	10.0783	4.7356	5.3427
3	5.4881	2.2011	3.2870	12.3195	6.2155	6.1040
4	4.4083	4.9168	—0.5085	10.0783	7.1730	2.9053

amounts of calcium and phosphorus were added to all the patient had received the period before. It was not until the end of the fourth period that the calcium balance was positive, although the phosphorus was positive in the third period. A calcium balance of more than 8.5 grams was found at the end of the seventh period.

Hughes *et al* (1929a) determined the blood calcium and phosphorus in thirty women, eleven untreated and nineteen undergoing treatment for osteomalacia. The calcium here was much higher than in similar cases in China, but increased on treatment. These same investigators (1929b) found the blood calcium in normal Indians distinctly higher than other investigators have in Europe and America. They attribute this to "excessive solar ultra-violet radiation."

Wills (1931), reporting the blood chemistry on twenty cases, found the blood calcium higher than the Miles series in China but still lower than the normal. This became normal after treatment with cod liver oil and ultra-violet light.

Fetal Rickets

The writer was always struck with the healthiness of the children born of these osteomalacic mothers. There was little or no gross evidence of rickets among these children at birth, and (later) nothing more than a mild rickets, if any, developed. Vaughan (1926) speaks of this same condition in the children of her cases in Kashmir, and Wilson (1931) says, "It is rare for the children of osteomalacic mothers to show signs of rickets until the second year."

More recently, Maxwell (1930) has done work on the histology of bones of infants dying shortly after birth, born of osteomalacic mothers. This histological work, together with X-rays of these fetuses, show that fetal rickets is present.

Maxwell (1930) says, "Two cases of undoubted rickets have been described, both in children born from mothers with prolonged and untreated osteomalacia. Not only does the evidence definitely prove that fetal rickets exists, but it also gives support to the view that osteomalacia and rickets are one and the same disease, producing in the individual with growing bones *rickets* and in the individual with bones of full growth *osteomalacia*."

Osteomalacia in Males

The writer saw one case of osteomalacia in a man seventy years of age in Shansi. He was much deformed and more distinct nodules could be felt on the bones than in any other case the writer has seen. There were no X-ray pictures taken of him. This man was in a very active stage of the disease. This case is reported here for the first time.

Hess (1929), quoting Litamann, finds eleven cases in males out of 131 cases reported in the literature up to 1861. Dalyell and Chick (1921) report a number of males in a group of post-war hunger osteomalacic patients in Central Europe. Hume and Nirenstein (1921) state that 44 per cent of 177 cases of hunger osteomalacia in Vienna were males. Maxwell and Miles (1925) show X-ray pictures of one case of osteomalacia in a male. Wilson (1930a) reports eighteen cases in men and thirty more in boys under seventeen in the Kangra valley, India.

Three factors in the life of women in these two countries make the disease much more common in them than in men:

1. Eating a grade of food inferior to that supplied to men. In China this was true even in the better homes.
2. Living a secluded life—behind doors in dark rooms and, in India, when venturing out, being fully veiled with a heavy cloth.
3. Special strain on the maternal organism in pregnancy and nursing, and to a much less extent in menstruating.

Tetany and Osteomalacia

The majority of the writer's cases of osteomalacia had tetany at one time or another. Many of these complained of tetany symptoms before the regular symptoms of osteomalacia came on, and many of them had tetany when the osteomalacia was at its height. Dalyell and Chick (1921) report tetany in both elderly and adolescent cases with post-war hunger osteomalacia in Central Europe. Maxwell reports it in two girls from an orphanage in China, who, on further study, showed osteomalacic changes in their bones. Scott (1916), Stapleton (1925), Hutchinson and Stapleton (1924), and Wilson (1930b) mention it in connection with the disease in India. The latter found it in both males and females. The idiopathic tetany of Kashmir is often associated with osteomalacia. From all these it appears that tetany is very often associated

with osteomalacia and there must be some relationship between the two conditions.

Prevention

The prevention of the disease is now clear. The writer, in the fall of 1922, put on an extensive educational campaign in the Pingtingchow area in China. Folders, giving the salient points in the etiology and methods of treatment, as we then knew them, were distributed systematically. Better food and more sunshine for all women were urged and especially stressed for pregnant and puerperal women. Egg yolk was emphasized as a part of the dietary. If numbness, which was often the first sign of the disease noticed by the patient, made its appearance, the person was advised to purchase cod liver oil and take one ounce per day. The hospital bought cod liver oil by the barrel and sold it to the people at cost.

This literature was distributed to the city and village officials by men employed by the writer. The officials were very cooperative and passed them down through lesser officials till the information reached the individuals in the homes. In addition, illustrated stereopticon lectures were given in the city and larger market towns as opportunity permitted. The result was that a district with a population of about a million people had an opportunity to know how to prevent the disease.

The results of this educational campaign were very satisfactory. Mission hospitals in the area began to notice after two and three years that there was a falling off in the cases coming for caesarian section. In the early days not nearly all the cases that should have had caesarians arrived at hospitals and some that did were in a dying condition and could not be operated upon. Patients came more as confidence was established. In 1924 there were over twenty normal deliveries and sixteen caesarians on osteomalacic women in the women's section of the hospital at Pingtingchow. In 1929, the last year for which I have any record, there were nine caesarians and forty-four normal deliveries. Had osteomalacia been as prevalent and severe as in 1922, there would have been a substantial increase in caesarians in 1929. Foot binding is now illegal and this likely aids some in the decrease of the disease by making for more out door life for the women.

While in India in 1930-31, the writer tried to visualize prevention of this disease. The early eradication of the disease there will be a more difficult task than in China because of the deeper hold religion has on the Indian. Animal foods are tabooed by the Hindu, and certain other foods by the Mohammedan. Religious beliefs in some groups would prevent the taking of cod liver oil. While the sunlight there is rich in ultra-violet rays, the young women cut themselves off from the light by staying in doors, where the rooms are usually dark, and cover themselves, when they venture out, from head to foot with great, white, heavy cotton gowns, in which two small screened holes allow the woman to see enough to walk. This keeping of *purdah* is characteristic of most Mohammedan women and of many of the higher caste Hindu women. Gradually these barriers will be broken down. In Delhi a drama has been arranged to bring out the causes and prevention of the disease and Wilson (1931) has made an effort to educate the people in better living. The nationalistic movements in both China and India, which are doing much to break down the customs affecting the seclusion of women, should have a beneficial effect on the prevention of the disease.

Summary and Conclusion

China and India are good fields for the study of osteomalacia. Much excellent work has been done in these countries on this disease the last ten years.

Osteomalacia is a disease caused by a deficiency in vitamin D. Those on a diet poor in the vitamin will be protected if they can obtain sun baths. Those without sun can have the deficiency made up by a diet rich in vitamin D.

Deficient calcium in the diet is a contributing factor in some cases in the production of the disease. Lack of exercise figures in the production in so far as it keeps the person in the house. Bound feet figure in the production of the disease by limiting the movements into and in the sunshine. Dark rooms and bad housing influence the disease adversely because of lack of sunlight.

While children born of osteomalacic mothers do not show gross signs of rickets, Maxwell has shown by section of the bones that fetal rickets does exist.

It is a disease largely of the female but is by no means unknown in the male. One case

in a male is reported for the first time in this paper.

Most cases of osteomalacia in China have tetany at sometime. Tetany is much less often associated with the disease in India, but is quite often seen in Kashmir.

Chinese cases have a low blood calcium while Indian cases run higher but are lower in calcium than the average for natives in Northwest India.

The prevention of osteomalacia in China could be accomplished fairly easily by an intensive campaign of education as to its causes. In India it will be a harder and slower process because of the greater seclusion of the women and the religious factor which limits the selection of foods. In both China and India the high degree of illiteracy makes the problem difficult.

BIBLIOGRAPHY.

Blumgart, H. L., Gargill, S L., and Gilligan, Dorothy R.: Osteomalacia—A Study of Its Metabolism and Treatment, Transactions of the Association of American Physicians, 1929, Vol. 44, p. 245.

Chick, H., and Dalyell, E.: Hunger-Osteomalacia in Vienna, Med. Research Council, Special Rep., 1923, Series No. 77.

Dalyell, E. J., and Chick, H.: (1921) *Lancet*, Vol 2, p. 842.

DeLee: The Principles and Practice of Obstetrics, W. B. Saunders Company, Philadelphia, 1916.

Fehling, H.: Zehn Castrationen; ein Beitrag nach dem Werthe der Castration, *Arch. f. Gynäk.*, 1884, Vol. 22, p. 441.

Ueber wesen und Behandlung der puerperalem Osteomalacie, *ibid.* 1891, Vol. 39, p. 171.

Weitere Beiträge zur Lehre der Osteomalacie, *ibid.* 1895, Vol. 48, p. 472.

Hess, Alfred F.: Rickets, Including Osteomalacia and Tetany, Lea and Febiger, 1929.

Hughes, T. A., Shivastova, D. L., and Sahai, P. N.: Observations on the Blood Chemistry in Osteomalacia, *Indian Journal Med. Research*, 1929a, Vol. 17, p. 470.

Hughes, T. A., Shivastova, D. L., and Sahai, P. N.: Observations on the Serum Calcium and Inorganic Phosphorus in Health and Disease, *Indian Jour. Med. Research*, 1929b, Vol. 17, p. 461.

Hume, E. M., and Nirenstein, E.: Comparative Treatment of Cases of Hunger-Osteomalacia in Vienna, 1920, as Out-Patients with Cod Liver Oil and Plant Oil. *Lancet*, 1921, Vol. 2, p. 849

Hutchinson, H. S., and Patel, P. T.: A Preliminary Study of Osteomalacia in the City of Bombay, *Glasgow Med. Journal*, 1921, Vol. 95, p. 241.

Hutchinson, H. S., and Stapleton, G.: Late Rickets and Osteomalacia, *British Jour. Dis. Child*, 1924, Vol. 21, pp. 18 and 96.

Koltonski: *Monatsschrift f. Geb. Gynak.*, 1920, Abst. *J. A. M. A.*, 1921, Vol. 76, p. 1620.

McCrudden, F. H.: The Effect of Castration on the Metabolism in Osteomalacia, *Am. Jour. of Physiol.*, 1906, Vol. 17, p. 211.

McCrudden. F. H., and Fales, H: Studies in Bone Me abolism—the Etiology of Non-puerperal Osteomalacia, Arch. of Int. Med., 1912, Vol. 9, p. 273

Maxwell, J. P.: Two Cases of Foetal Rickets, *Jour. of Path. and Bacteriol.*, 1930, Vol. 33, p. 327.

Maxwell, J. P., and Miles, L. M.: Osteomalacia in China, *Jour. of Obstetrics and Gynecology of the British Empire*, 1925, Vol. 32, p. 433.

Megaw, J. W. D., and Gupta, J. C.: Distribution of Indian D'seases, *Indian Medical Gazette*, 1927, Vol. 62, p. 299.

Miles and Feng: Calcium and Phosphorus Metabolism in Osteomalacia, *Journal of Experimental Medicine*, January, 1925, Vol. 41, pp. 137-157.

Neal, J. B.: Diet Lists for Use in the Hospital of the Union Medical College, Tsinan, Shantung, *China Med. Jour.*, 1916, Vol. 30, p 9.

Scott, A. C.: A Contribution to the Study of Osteomalacia in India, *Ind. Jour. Med. Research*, 1916, Vol. 4, p. 140.

Stapleton, Grace: Late Rickets and Osteomalacia in Delhi, *Lancet*, 1925, Vol. 1, p. 1119.

Vaughan, Kathleen: Osteomalacia in Kashmir, *British Medical Journal*, 1926, Vol. 1, p. 413.

Wampler, F. J.: Osteomalacia in China, *China Medical Journal*, 1924, Vol. 38, p. 349.

Wills, Lucy: Note on the Blood Findings and Results of Treatment in Twenty Cases of Osteomalacia, *Ind. Med. Gazette*, 1931, Vol. 66, p. 75.

Wilson, D. C.: The Distribution and Treatment of Late Rickets and Osteomalacia in Northern India, *Indian Medical Gazette*, 1931. Vol. 66, p. 72

Wilson, D. C.: Osteomalacia (Late Rickets) Studies. *Ind. Jour. of Medical Research*, 1930-31a, Vol. 18, p. 951.

Wilson, D. C.: Osteomalacia (Late Rickets) Studies, *Ind. Jour. of Medical Research*, 1930-31b, Vol. 18, p. 969.

Wilson, D. C., and Coombes, W. K.: Osteomalacia (Late Rickets) Studies, *Ind. Jour. of Medical Research*, 1930, Vol. 18, p. 959.

BILATERAL CONGENITAL ANOPHTHALMOS—WITH REPORT OF A CASE.*

ALLEN T. HAWTHORNE, M. D., Winchester, Va.

True congenital anophthalmos is usually bilateral and is not a common occurrence. There have been many cases of so-called anophthalmia reported, but these were really cases of diminutive microphthalmia. In these latter cases a careful examination of the orbital fossae will demonstrate at the posterior pole elevated black dots surrounded by normal conjunctiva, and often radiating out from this will be bluish-black lines two or three m.m. long, resembling pigment arrangement of the iris. These are undoubtedly small undeveloped eyeballs. H. R. Wright has reported such a case. In true congenital anophthalmos careful examination of the orbital fossae will not show any vestige of tissue even remotely suggestive of the eye-ball. There is in these cases no

*Read before the Virginia Society of Ophthalmology and Otolaryngology at its meeting on May 14, 1932, at Virginia Beach, Va.

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remnant of embryonal ocular epiblastic tissue. There may be present, however, some development of the ocular muscles, because it has been shown that these muscles may partly develop and their nerve supply develop, although the visual system itself is entirely absent.

It is interesting to speculate as to why cases of anophthalmos occur. We are reasonably sure that they come about because of one or two things: First, a failure of the primary optic vesicle to bud from the thalamencephalon; or second, having budded and begun to develop, it was destroyed by some toxic, infectious, or chemical agent, produced intrauterine, or introduced through the maternal circulation to that of the embryo in its early stage of development. A great deal of experimental work has been done which tends to bear out this latter theory. U. C. Boon, in reporting a case of anophthalmos, quotes Laplat as stating that he (Laplat) has produced anophthalmos or cyclopia in tadpoles by spraying an aqueous solution of some toxic substance on frog eggs during certain stages of their embryonic development. The result of this experiment would tend to give weight to the theory advanced by some that these cases of anophthalmos may be some times due to a gonorrheal infection in the mother which affects the development of the embryo in utero. But to offset this theory, it is interesting to note that the report of Boon's case was one of twin boys. One of these boys was normal in every way except for the anophthalmos. No vestige of eye-ball was found after dissecting out the orbit; neither could any evidence of the ocular muscles be demonstrated.

Stockard has stated that by breeding alcoholized animals through several generations, he was able to produce, among other eye defects, both unilateral and bilateral anophthalmos. He also obtained similar results by treating fish eggs with alcohol during certain stages of their embryonic development, and by treating hen eggs with alcoholic fumes either before or during incubation.

Many of these physical stigmata, which result as a failure of some embryonic development, we often attribute to consanguinity of the parents, inter-marriage among relations, to hereditary influences, to physical defects of the parents, and so on. However, in the majority of cases of anophthalmos on record, the parents were physically and mentally normal, and were not related before marriage. The usual physical and mental stigmata seen in children as the result of marriage between close relations is nearly always absent in cases of anophthalmos. A few cases of polydactylism have been reported as being associated with anophthalmos, but, as a rule, these cases are nearly always entirely normal physically except for the anophthalmos. However, a great many of them show a retarded mental development which becomes more obvious as the child grows older.

Case Report

R. E. W., a male, was born July 6, 1929. His delivery was spontaneous and normal. The birth weight was 6½ pounds. He first came under my observation at the age of eight months. His life from birth until this time had been perfectly uneventful. Except for an occasional coryza, he had been free from any illness. He had been bottle fed, and had made a steady and normal gain in weight.

His parents were normal in every respect, both mentally and physically. They were not related prior to marriage, gave no family history of any mental or physical taint, denied any venereal disease, past or present, and were not addicted to the use of any narcotic or alcohol. Both parents had negative Wassermanns.

The mother had had one miscarriage, at two and one-half months, in her first pregnancy, four and one-half years ago. She had one child, age three years, living and well, and perfectly normal both physically and mentally. A few days after the birth of the baby in this case report, the mother began to suffer with a pain in the right side of her abdomen and back, which continued until August 30th, when she was admitted to the hospital and operated upon by Dr. L. M. Allen. His findings at operation were as follows: There was a large, tender, mass in the right lumbar region extending up from the brim of the pelvis nearly to the lower border of the ribs, and extending medially in the back beyond the midline. This mass was drained by a lumbar incision and twenty-four ounces of pus evacuated. Unfortunately no culture or smear was made. The urinalysis showed both pus and albumin to be present but no casts were found. This was unquestionably a perinephritic abscess.

On March 20, 1930, the mother was again admitted to the hospital complaining of a pain in the right side of the abdomen and pelvis.

At operation Dr. Allen found a cystic right ovary, a right salpingitis, and numerous pelvic adhesions. The adhesions were freed, and the right tube and ovary removed. Smears were made from the tube, and from the cervix and vagina, but were found negative for gonococci. The patient made an uneventful recovery, and at the present time is in good health.

Physical examination of the child was essentially negative except for the absence of eyes. The head was normal in shape and contour. The ears were normal in shape and negative. The hearing was apparently normal. The nose was very broad, the bridge being somewhat depressed, but the nostrils were very large. Internal inspection of the nose was negative. Dentition was delayed, no teeth being present. The frenum of the tongue was over-developed, producing a tongue tie, and beneath the tongue on the floor of the mouth there was a rather marked corrugation of the mucous membrane. The eye-lids were perfectly developed but slightly sunken into the orbital fossae. The palpebral fissures were normal, and the puncta of the lacrimal ducts present. Inspection of the orbital fossae showed no vestige of eye-ball, nor were any ocular muscles felt. Nothing even remotely resembling an eye-ball was present.

Examination of the chest, abdomen, genitalia, extremities, and reflexes, was negative.

The child was very alert mentally, was playful, and would smile when played with.

Apparently this was a case of bilateral congenital anophthalmos in a child who was seemingly normal in every other respect. Whether this anophthalmos was due to a failure of the primary optic vesicle to bud, or whether it was due to a failure of it to develop after having budded I am unable to say. However, it does seem probable to me that this condition was produced by failure of the primary optic vesicle to bud.

Summary

1. True congenital anophthalmos is a rare condition, the majority of cases on record having been cases of diminutive microphthalmia.

2. True congenital anophthalmos is probable due either to a failure of the primary optic vesicle to bud from the thalamencephalon, or, having budded, failed to develop—due to some toxic or infectious agent produced intra-uterine or introduced through the maternal circulation to that of the embryo.

3. Experimental work has been done which tends to bear out this toxic theory.

4. A case of true bilateral congenital anophthalmos is reported in a child who is apparently normal in all other respects.

References

1. Bachman, Carl: A Case of Human Cyclopia Resembling Anophthalmia. *Amer. Jour. Ob. and Gyn.*
2. Hilgartner, H. L.: Congenital Anophthalmos. *Jour. Opthal.*, 1925.
3. Heinberg, C. J.: Congenital Bilateral Anophthalmos and Polydactylism—With Report of a Case *Jour. Fla. State Med. Assoc.*
4. Yudkin, A. M.: Congenital Anophthalmos in a Family of Albino Rats. *Jour. Opthal.*, 1927.
5. Halloway, T. B.: Anophthalmia. Tr. Coll. Phys. of Phila., 1915, 3S, XXXVII, 455
6. Spiller, W. G.: A Case of Complete Absence of the Visual System in an Adult. Brain, 1901. XXIV, 631-642.
7. Dowling, O: Case of Anophthalmos. *Jour. Med. and Surg.*, November, 1903, LVI, 334.
8. McMillan, L.: Anophthalmia and Mal-Development of the Eyes—Four Cases in the Same Family. *Brit. Jour. Opth.*, V. 121.
9. Boon, U. C.: Congenital Anophthalmos, With Report of a Case. *Jour. Oklahoma Med. Assoc.*, 1923, XVI, 63.
10. Rosenbaum, J.: Congenital Bilateral Anophthalmos. *Canad. M. A. J.*, 1919, IX.
11. Wright, H. R.: Anophthalmos. *Opth. Record*, 1916, XXV, 620.
12. Graef, Chas.: A Case of Anophthalmos. *New York Med. Jour.*, 1904, LXXX, 454.
13. Manson, J. S.: Congenital Absence of Both Eye-Balls. *Brit. Med. Jour.*, 1915, I, 801.

110 *North Braddock Street.*

ELECTRO-SURGERY IN VESICAL NECK OBSTRUCTIONS.*

S. BEVERLY CARY, M. D., Roanoke, Va.

For many years it has been the ambition of urologists to relieve vesical neck obstructions by other means than a radical surgical procedure. From present indications, it seems that this dream has been realized to a degree far beyond our expectations. With equipment now available, we feel that it is possible to relieve 90 per cent, or more, of the several types of prostatic obstructions without recourse to prostatectomy. As we become more expert in the technic of operating our electro-surgery equipment, prostatectomy will be reserved for the occasional case in which it is impossible to introduce an instrument, and in those with massive intravesical enlargements of the lateral or median lobe, and the very vascular glands.

It is not my intention to go extensively into the history of the various methods of endo-urethral surgery which have played such a

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vital part in bringing this work up to the present efficiency of equipment and technic. A complete resumé has been outlined by so many able writers that it hardly seems necessary to repeat; however, a few remarks in regard to several of our pioneers in this work would not be out of place at this moment.

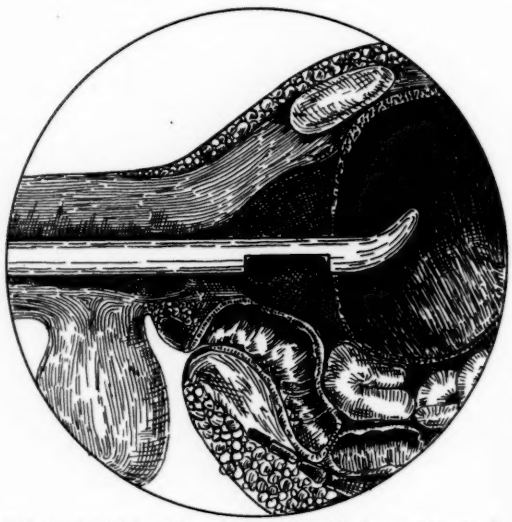

Fig. 1.—Sagittal section showing Stern-Davis resectoscope in place with prostatic tissue engaged in fenestra, preparatory to cutting with loop. The necessary number of sections are removed to secure a wide open tunnel from the trigone apex to the verumontanum.

To Hugh H. Young, who is often referred to as the father of urology in this country, goes great credit for visualizing and perfecting a tubular punch, in 1913, to meet a limited requirement in certain types of median bar and contractures. On account of no provision for adequate control of hemorrhage, this instrument was never popularized.

In 1919, John R. Caulk modified the Young punch by adding a circular cautery blade, and to Caulk we are greatly indebted for stimulating the interest of urologists in the field of endo-urethral surgery. His continual hammering of a sound principle, in the face of criticism and sometimes fire from many sources, was a strong factor in hastening the apparent perfection of the present day equipment and the climbing aboard of the band wagon by urologists everywhere.

In the field of prostatic resection, too much credit cannot be given to T. M. Davis for his mechanical and electrical ingenuity, along with an unlimited patience, in perfecting the Stern resectoscope and assembling a cutting-coagulation unit to meet requirements which had previously seemed impossible.

Several years ago my interest in endo-urethral surgery was aroused by Caulk, when he introduced the cautery punch which was primarily intended to relieve vesical neck obstructions due to median lobe or bars and fibrous contractures. Later he extended the use of this instrument to lateral lobe hypertrophies, and at present reports a satisfactory relief of all types of obstruction in 85 per cent of cases. Dr. Caulk, of course, is an expert, but it is to be doubted if other operators could claim such a high per cent of clinical cures. My experience with this instrument has been limited to a relatively small series of selected cases with end results that were extremely

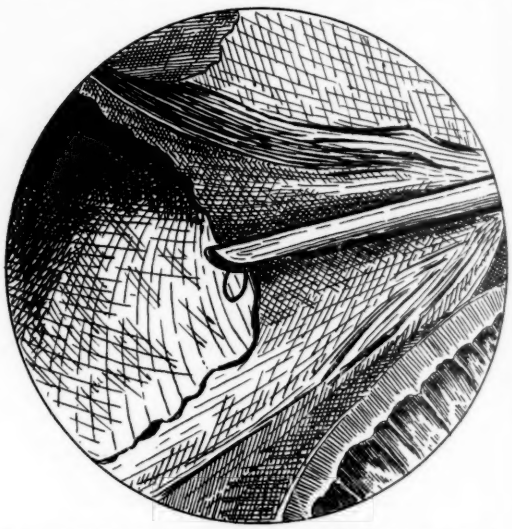

Fig. 2.—Sagittal section demonstrating the McCarthy electrotome in place for resection. Note the cutting loop projecting from the sheath of the instrument. The desired amount of tissue can be removed by repeated excursions of the loop.

satisfactory in the vast majority, particularly in the well advanced carcinomas in which conservative surgery is essential.

For the past six months, every case of prostatic obstruction which has come under our care and submitted to surgery has been operated with the Stern-Davis resectoscope, and a Davis-Bovie cutting and coagulating unit which appeals to me as a most practical and versatile outfit for this work.

Recently McCarthy has perfected a visual prostatic electrotome which is in many ways superior to the Stern resectoscope. It is not only less difficult to operate, but somewhat larger sections are removed at each excursion

of the loop, thereby lessening the operating time consumed.

Prostatic resection is an outstanding achievement in the steady march of progress in urological surgery of the present day. It not only practically eliminates a hazardous major surgical procedure in the old man, with a multitude of infirmities, who is approaching the sunset of life, but offers relief to the large number of middle-aged who are in the incipient stage of prostatism and are rightfully unwilling to undergo the ordeal of the mutilating operation of a total prostatectomy and a loss of sexual power.

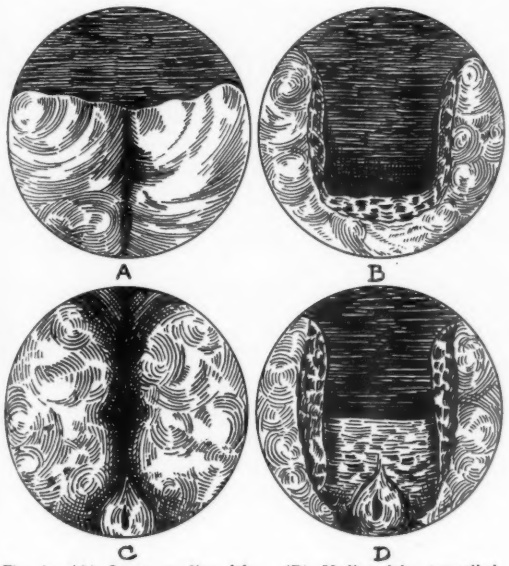

Fig. 3.—(A) Large median lobe. (B) Median lobe tunnelled through. (C) Diagram illustrating hypertrophy of lateral lobes with verumontanum in foreground. (D) Excised intraurethral projection of lobes giving a wide open channel from the verumontanum to the apex of the trigone.

One should not get the impression from all that has been said and written that endourethral surgery is a very minor procedure that can be undertaken without due consideration of many factors, particularly in reference to the proper preliminary treatment which is of paramount importance, just as it is in the preparation for a prostatectomy. Each candidate for the work should be given every consideration in respect to the circulatory system, gradual decompression of the over-distended bladder, and the renal function. Although many of these cases do not reach a degree of improvement which would make a prostatectomy reasonably safe, a resection can be carried out with a minimum degree of risk.

As a minute technic of this operation is chiefly of practical interest to the resectionist, only a brief outline of the important points will be given in connection with slides which will be thrown on the screen preceding a demonstration of the resectoscope loop and the cutting-coagulation unit. This will give a fairly comprehensive conception of the mechanism in prostatism, as well as the operation itself.

Following the excision of the required amount of tissue to give a wide open tunnel from the verumontanum to the trigone, a soft catheter is strapped in the bladder for continuous drainage over a period of three or four days. On removal of the catheter, the patient usually voids a full, forceful stream with surprisingly little discomfort. The average postoperative stay in the hospital is about a week, with exceptions, of course, in the occasional case.

As time goes on, this recent advance in prostatic surgery will become increasingly popular, not only from the economic standpoint, but it will be generally realized that a maximum relief of symptoms can be obtained by substituting a relatively safe procedure for the dreaded ordeal of a total prostatectomy.

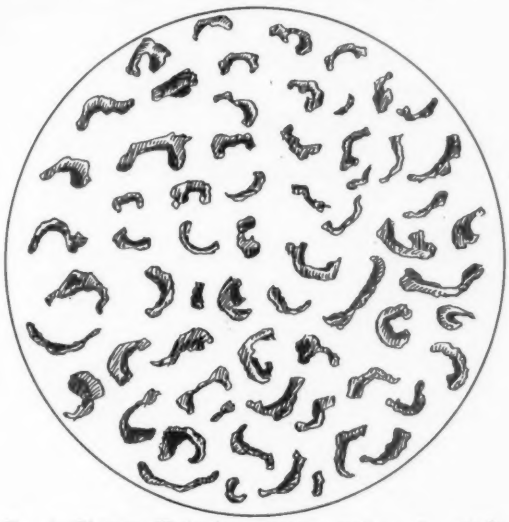

Fig. 4.—Diagram illustrating numerous sections of prostatic tissue removed with the radio cutting loop. The amount of tissue resected varies in each individual case.

Prostatic resection is a sane and satisfactory operation, with possibilities of accomplishing all that is desired in establishing a free outlet of the retained urine.

We should not remove a prostate simply because it is enlarged, but excise the obstructing portion, and the tissue remaining will either undergo a shrinkage or remain harmless.

In conclusion, I am taking the liberty of quoting from Professor Luys' article on Forage de la Prostate, as follows: "When a mountain interferes with communication between two points, the communication is established, not by removing the whole mountain, but by digging through it a tunnel sufficient to care for the traffic."

303 *Medical Arts Building.*

COMMENTS ON THE DIFFERENTIAL DIAGNOSES OF PSYCHONEUROSES AND PSYCHOSES.*

NOLAN D. C. LEWIS, M. D., Washington, D. C.
Clinical Psychiatrist, St. Elizabeths Hospital.

There is a considerable diversity of opinion as to whether the relationship between psychoneuroses and psychoses is merely one of quantitative expressions or one in which there are demonstrable, fundamental differences. In the first place, we all approach such a problem in a prejudiced way, our minds being already made up on the basis of our personal experiences as clinical psychiatrists with patients. In the second place, the various writings on the neuroses and psychoses, particularly those in the foreign literature, are misleading in many respects, as their expressions in terms of classification do not correspond with the Kraepelinian viewpoint, nor with other groupings in the English speaking clinics. Those who are engaged in the practice of the Freudian type of psychology express all abnormal mental reactions in the term "neurosis," the milder reactions being classified by the term "transference neurosis" and the frank psychoses such as paranoia, dementia precox, manic depressive reactions, etc., as "narcissistic neuroses," but, not withstanding, the word "psychosis" is used here and there throughout the same type of literature.

One attitude towards this question is that there is no definition of the psychoses that marks them off from the neuroses and that they are only distinguished by these two terms for practical purposes. These observers contend that it is a matter of quantity of expression or of degree, rather than of kind, and they refuse to recognize any clear lines of separation between psychoneuroses, neuroses and psychoses. There is a contrary attitude and also one that has many adherents, i. e., that there is a definite distinction between these groups and that in a fundamentalistic way one never precedes or develops into the other. This attitude must imply that there are criteria which are not recognized by the first mentioned observers, but which are capable of forming a more sharply delineated concept of these disorders.

The basis usually given for the first impression, that is, that these conditions represent quantitative expressions, is usually one of three possible attitudes; first, is the prognostic attitude of differentiation, which might be said to be a more definitely prejudiced viewpoint. One is often quite surprised to note that in some clinics the favorable or unfavorable outcome of the mental disorder determines the taxonomic differentiation of neuroses from psychoses or serves to indicate a diagnosis within one group or the other. The second reason, and one quite often encountered, is developed from the opinion based on ordinary clinical experience and shows what I call the "clinical quantitative degree" viewpoint. The opinions based on personal experience are commonly summed up by some such statement as "I have seen many cases do this (meaning beginning as a psychoneurosis and gradually develop into a psychosis), but, of course, I have not made studies other than the ordinary clinical record and my personal observation." In this respect it will too often be found that the observations have been haphazard or uncontrolled; daily, weekly, monthly or hourly observations without any detailed studies of the deeper mechanisms involved. The third attitude is what I would call the "mechanistic-quantitative viewpoint" held by some who see strictly what they argue to be the fundamentals, the argument being that mental mechanisms are the same throughout mental life. They are present in the normal or average and are exaggerated in the neuroses and more so in the psychoses; therefore, the patient, having difficulty in adjusting at the normal adult level, takes a simpler attitude by regression and, if necessary, a still deeper flight into the psychosis, to find a more comfortable place in the scheme of things.

The basis for the argument that there are

*Read at the quarterly meeting of the Southside Virginia Medical Association, March 8, 1932.

fundamental differences between the neuroses and the psychoses depends chiefly upon matters revealed by the psychoanalytic technique. These observers hold that repression is a more involved matter than mere quantity and that it takes place to basic organized fixation points in the development, which fixation points differ in the psychoses from those found in the neuroses and that the neurosis is a difficulty between the instinctive drives and the super-ego, while the psychosis is in the realm of the ego and the ideal of ego. In schizophrenia there is a destruction of the ideal of ego, which is also true of the paranoid sub-group, thus constituting a disease of the id. In the manic depressive psychosis the relationship between the ego and the ideal ego is changed, while the organic determinants are diseases of the ego construction. Thus, the mechanisms in the psychoses are different from those in the anxiety neurosis, where the regression is to the edipus relationships or in the compulsion obsessional neurosis, where the regression is to the homosexual anal level and are thus never quite so deeply seated as in the so-called narcissistic neuroses or psychoses where the regression goes to a deeply infantile level, or even beyond this into the earliest somatic components.

In the so-called character formation of the average person there is an integration with the balance well developed in the regression and compensation mechanisms, while in the neurotic character there is an absorption of the unconverted instincts into the ego. In the neurosis the instinctive drives are not acceptable to the super-ego and thus may become dissociated, while in the psychosis there is definite dissociation with projection of the elements into the outside world.

If one approaches this question from the purely biological or psychobiological standpoint, one has to admit that nothing is merely quantitative in biologic mechanisms and so it is necessary to recognize the basic importance of what is known as organization in structure and function. There are many degrees of this organization, but it is not only a matter of degree, or of simple summation; as when any group of organized units express themselves at different levels; there are fundamental differences in these expressions, not only in their patterns, but also in the basic principles themselves. In dealing with such a question we have to constantly emphasize the matter of integration at different levels, the basic reactive possibilities and probabilities have to be considered as being different or changed. We can never depend upon the secondary or surface expressions. excepting in a rough indicative way, to lead us in making a decision concerning what is going on beneath the surface. A reaction which is homogeneous on the surface may be heterogeneous fundamentally and vice versa. It is of some importance in considering this impression to recognize the fact that all those who are working intensely in psychoanalysis agree that there are fundamental differences between the neuroses and psychoses and that these differences depend upon different sets or groups of integrated factors.

A comprehensive inclusive definition of the abnormal personality reactions would be difficult to formulate because of the extensive overlapping of various characteristics which are also somewhat in common with disorders which are not essentially either psychoneurotic or psychotic in nature, but it is possible to make a delineation of this field which will be understandable, at least from a practical standpoint. At the present time we may concede that human beings on the basis of development, repression and regression are divisible according to the main expressions of their personality, dependent upon these mechanisms into four main groups, (a) the normal or average character, (b) the neurotic character (Alexander) or idiosyncratic personality (Healy), (c) the neurotic personality or unstable egocentric personality (Healy), (d) the psychotic personality or psychotoid personality (Healy). In differentiating an individual into one of these four groups one must keep in mind the concepts of repression and regression, as it is possible only on the basis of these to make an understandable description of what we mean by the term personality.

It is taken for granted that all individuals, at least in the present day and age, are subject to somewhat similar varieties of training which is in keeping with the laws of society and that this training at times is antagonistic to original organic biologic laws of growth, development and reproduction. The process of repression begins early and we may consider an individual as normal, if through this

process of repression and adjustment he is able to make the proper sublimation or use of his repressed or partly inhibited original, instinctive tendencies for the good of himself and others. If he, in his life situation, is sufficiently successful in his adjustment to enable him to conform with the laws of society on the one hand, and to maintain a free conscience on the other, he could be considered as a normal person.

There are certain other individuals, whose numbers are legion, who are looked upon by their fellow beings as odd, queer, eccentric personalities who do not mix well in the ordinary social activities, but who do conform to the laws of their community on the one hand, and seem to be free from mental conflicts on the other. The difference in character is sufficient to invite various facetious and often derogatory remarks from others, but the odd individual himself really has little or no insight into his condition and feels that he is normal or at least only a little queer. These individuals have been called by various authors the "neurotic character type," which is to say that the early repressions were not adjusted at the average normal level, but that there were neurotic tendencies which became, so to speak, reabsorbed into the personality and there structuralized to the extent that the neurotic trait became a rigid part of the character, that is, it was accepted by the ego as normal and functions in this manner throughout a lifetime. Such a personality practically never shows outstanding neurotic symptoms as such and there is no conclusive evidence that they are prone to active mental conflicts or what is known as a psychoneurosis. The psychoneurotic individual is one in whom the repressions have failed in part, to the extent that the early instinctive tendencies (destructive and reproductive) are released or maintained in an unsuitable state which is not accepted by the ego as part of its own structure and thus a conflict is created between the ego and the id to the extent that the individual is perpetually or periodically in an uncomfortable state of mind at the emotional level. The struggle is an aim to maintain a certain amount of normalcy and to keep from society the fact that what is understood as anti-social mechanisms are in force. These mechanisms representing socially unacceptable cravings come out in a distorted manner in the form of symptomatic acts, phantasy formations and a horde of different physical symptoms, the real fundamental nature of which is unconscious.

The psychotic individual is one in whom some repressions have entirely failed to the extent that the individual is expressing himself in part purely at an infantile or "perverted level" and in whom regression has taken place to an earlier state of behavior which is much more simple in its adjustment than growth and progression at the high adult environmental level. From time to time the psychotic person through re-repression, which may be brought about in more than one way, is able to recover his former adjustment and take his place in society. Clinically, there is usually no difficulty in differentiating an outspoken or fully developed psychosis from a psychoneurosis, but at times the differentiation of a psychoneurosis from a "neurosis like" condition of more definite physical significance, or from a beginning, a mild or an atypical case of dementia precox, is no easy matter, and not seldom is it necessary to await further developments in a given case before venturing a diagnostic opinion. However, there are certain general helps in differentiation which, if carefully evaluated, tend to point in the right direction.

In those cases (and they are numerous) either of psychoneurosis or of psychosis complicated or characterized by leading physical symptoms, the physician's diagnostic ability is challenged at once, and, as before mentioned, it is frequently very difficult to differentiate clinically certain mental manifestations from those symptoms commonly encountered in internal diseases, since the psychoneurosis, particularly the symptoms, may not always be entirely at the emotional behavior level of expression, but may, as far as the complaint itself is concerned, consist almost wholly of physical expressions. Therefore, the following points should be clearly in mind during the examination of a given case:

1. The temperamental make-up of the person, with particular attention to his manner of reacting to previous illnesses and to the past vicissitudes of life.

2. The mental attitude of the patient toward his disease, and also the attitudes of the relatives toward his condition. Does he seem to be gaining a lot by being ill?

3. The particular environmental setting in which the disorder began.

4. The type of history of the illness, as to whether it conforms with the classical descriptions of physical diseases. Are there too numerous, unaccountable deviations from the picture?

5. The nature of the physical signs and symptoms on examination. An evaluation must be made of the relevancy of the physical signs (if present) to the actual complaints of the patient, e. g., insomnia and fatigue must be considered from several standpoints, as must also tremors, tics, muscular weakness, paralysis, headaches, tachycardia, gastric symptoms, diarrhea, etc.

After the early "mental case" is so diagnosed, the physician must try to decide whether it is a psychoneurosis or a psychosis in order to direct in a general way his advisory capacity to the benefit of the patient and of the community. The finer differentiation into varieties or forms of these disorders, matters of benignancy and malignancy and courses of treatment, require the attention of one who has specialized or has had an extensive experience in mental conditions. But in making the first differentiation the general physician and specialist alike have to consider the general mental character of the patient, the type of personal history, the interpersonal relationships, the environmental (personal, economic, hygienic, occupational, etc.) setting of the disorder, the actual personal problems involved, the patient's mental attitude toward his condition, and the manners or ways in which his regressive or peculiar behavior take place.

The following table constructed of briefly described comparisons and contrasts of some of the mental symptoms in the two general types of disorder may help in doubtful cases, particularly when the psychosis is of dementia precox import, as it is in this particular problem that one is most frequently confronted with diagnostic difficulties.

PSYCHONEUROSIS	DEMENTIA PRECOX
1. Personality relatively intact.	1. Transformations of personality common.
2. Primary disorder in "freet floating" affect or anxiety. Emotions quantitative exaggerations of normal.	2. Primary disorders in *association* of ideas and *affectivity* disjunctions. Qualitative changes in emotional expressions. Emotional distortions.
3. Anxiety always present in some form—emotional uneasiness—feelings of insecurity and fear—no real associated delusions or hallucinations.	3. Anxiety present at times, but often disjuncted from reality or falsely interpreted—may be connected with tormenting self reproaches and self-accusatory delusions—sense of guilt more consuming—anxiety often caused by hallucinations.
4. Physical discomforts—sensations — pains — constrictions—rationally but incorrectly explained.	4. Hypochondriasis more dominant and bizarre—often explained in delusionary manner.
In both thypes of disorder physical conversions or physical symbolism occurs at that point where there is some feeling of strain and where there has been personally a physical disease or some other somatic preparedness—"ein somatisches Entgegenkommen" (Bleuler).	
5. Dissociation—practically none except in hysteriform components—some benign feelings of unreality or delusions against others.	5. More marked loss of borderline between reality and unreality—more definite feelings and convictions of unreality in self and outside world.
6. Projection elements or delusions against others mild—and in connection with more or less real misunderstandings.	6. Projection with lack of insight more active. Deeper seated and often absurd delusions against others.
7. Obessive thoughts—invading ideas displacing and contradicting the usual preoccupations of the subject—produces "intellectual vertigo" (fear of loss of all reason—differentiate from physical vertigo which gives the impression of imminent death)—Feelings of compulsion to do things.	7. Obessive thoughts more apt to "be shared by others" or controlled by outside forces (difference in insight)—indicates loss of borderline between reality and unreality—feelings of "mind being read" and of "thoughts known to others."
8. Hallucinations rare. "Expectation," hallucinations or rather "illusion" may be more active than normal.	8. Hallucinations may or may not be present, but when present and associated with mystical interpretations, feelings of mind, reading, etc., they at once indicate the diagnosis—(particularly if a comparatively new development).
9. Psycholeptic attack—seen in psychasthenia. Severe disorganizing, confusing anxiety attacks may be followed by some depression.	9. Accompanied by bizarre ideas, vagueness of thought, indecisiveness, somatic delusions, and paranoid projections—followed by deep depression (agitated form) and suicidal reactions.

10. Suicidal reactions more apt to be "gestures" to gain attention.
11. Intellectual disorder—Disturbance of mental content and lack of concentration because of divided attention (one part on personal troubles—other on thing at hand)—causing temporary disturbance.
12. Insight retained.
13. Retention of ideal of ego—Retains the point of view of society and of previous training
14. Progression to states of more complete invalidism.

10. Suicide more apt to be genuine and successful.
11. Intellectual disjunction invariably present because of deeper split in personality—with depersonalization—Some things done well—memory disturbance as such varies from none to complete loss.
12. Insight usually impaired.
13. Beginning loss or disturbances in ideal of ego. Loss of social sense and habits.
14. Progression of mental oddities by increase and shifts in the picture. Finally deep regression to "vegetative" level.

In studying the personal history of a patient we must keep in mind that the upsetting things in life do not consist only of such gross events as assault, rape, breach of promise, sudden dangers to life and the death of beloved persons, but a person is constantly bombarded with numberless daily problems, having a cumulative effect, including the ever-present one of sex, and moreover there are fights and struggles against the hostility of others and various competitive situations in gaining a livelihood as well as conflicts between loves and hates within themselves. Under the existing conditions it is a wonder that more people do not develop a permanent serious mental disorder, but after all the human mind is a very adaptable thing and usually adjusts itself unless there are deeply seated handicaps in the form of predisposing fixation points.

Whenever there has been an active conflict between morality and an instinctive drive, the result is some expression of anxiety, one reason for which may be of anatomical significance, as there is a close structural proximity between the fear and sex centers in the mid-brain. Those who have anatomical leanings and who see in the mental disorders released by organic brain diseases an indication that all abnormal mental states must be caused by brain lesions which are still eluding science, would do well to recognize that brain lesions produce no new mental material, but they make the individual live at a more primitive or simple level, the special aspects of which are determined by what has gone on before from the beginning of his life.

Any organic disease of the body as well as a psychoneurosis may serve to place the individual in a position commanding more love and attention from his family or associates. He again becomes the center of attention, and, moreover, the sufferings from the disease satisfies any need for punishment for self evaluated wrong doings. When we look about us as physicians we find ourselves in a very neurotic world, from which we must hope to emerge with a better understanding of life and its values.

BIBLIOGRAPHY

Franklin, M. E.: Psychologic Differences Between Psychoses, Psychoneuroses and Character Formations. *Jour. Ment. Sci.*, 1929—75—671.

Muncie, W.: The Psycholeptic Attack in Psychoses. *Arch. Neurol. & Psychiat.*, 1932—27—352.

Bleuler, M.: Schizophrenia: Review of the Work of Professor E. Bleuler. *Arch. Neurol. & Psychiat.*, 1931—26—610.

Skottowe, J.: Diagnosis of Psychoses in Young Adults. *J. Ment. Science*, 1930—76—696.

Pollak, F.: The Present Status of Schizophrenia, Especially Its Aspects During Early Childhood. *Med. Klin.* (Berlin), 1930—26—1626.

Lindner, T.: Some Viewpoints of the Actual Problem of Schizophrenia. *Arch. Neurol. & Psychiat.*, 1930—24—1249.

Domingo, E.: Prepsychotic Manifestations in Dementia Precox. *Philippine Islands Med. Assn., Jour.*, 1931—11—425.

St. Elizabeth's Hospital.

VOMITING IN INFANCY AND CHILDHOOD.*

THOMAS D. JONES, M. D., Richmond, Va.

Vomiting is perhaps the most frequent symptom of disease in infancy and childhood, and may indicate anything from slight over-filling of the stomach to the gravest condition, such as bowel obstruction, central nervous disease, or serious toxemia. "Owing to the shape and position of the stomach in infants it occurs with great facility" (Holt). The slightest local or systemic disturbance is sufficient to produce an attack; in fact, there are few disorders of any type occurring at this period in which vomiting does not occur at some stage of its course. It is often the first symptom for which relief is sought, and may be the source of much anxious concern on the part of the parents, and may even endanger the life of the child.

Disturbances from improper feeding is the

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generally recognized causative factor in the great majority of cases, and a history of some slight dietetic error can usually be obtained in almost any case. It is, therefore, important to constantly keep in mind some of the more serious uncommon causes as well, or we may fail in making a correct diagnosis or delay it until the chances for recovery have been seriously jeopardized. This is especially true of those conditions associated with vomiting, requiring surgical means for relief, when sometimes a few hours delay in diagnosis may rob the little patient of its chances for recovery. I shall, therefore, first attempt to bring to your attention a brief clinical picture of some of the serious conditions in which vomiting may be the first and chief evidence of disease, all of which merit thoughtful consideration whenever this troublesome symptom is present.

Intussusseption

This condition is characterized by a sudden onset of vomiting and paroxysmal pain. The history is generally that of a previously healthy child, usually breast fed, more often male than female, the ratio being about two to one. The most common age is from six to twelve months (about 70 per cent occur in the first year), although it may occur at any age and has been seen in a child as young as five weeks. There is great prostration; the temperature is usually normal, or may be subnormal in the early stage. There may be one or two fecal stools at first, but this is followed by frequent bloody stools. A tumor is usually palpable within a few hours after the initial onset, and is most frequently felt in the epigastrium or left iliac region. The size of the mass will vary with the degree of invagination. The usual textbook descriptive term "sausage-shaped" is accurate when the invagination is large. It can often be felt per rectum and a rectal examination should always be made, for, even when the tumor is not palpable, withdrawal of the examining finger is almost constantly followed by a bloody discharge, which is a symptom of great value. The chief diagnostic symptoms are the vomiting of sudden onset, with severe paroxysmal pain, great prostration, bloody stools, tenesmus and palpable abdominal mass. If this picture is kept in mind, one would rarely confuse it with any other condition.

The prognosis is entirely dependent upon the time of operation, increasing in gravity with each hour's duration of the disease. The treatment is essentially surgical. Such measures as the inflation of the intestine with air, or the injection of water into the bowels are too uncertain to justify a trial if competent surgical aid is available. While a relatively safe procedure during the first few hours, there is always a possibility of an incomplete reduction even when it appears successful, and the delay incident to the trial of such a procedure seriously impairs the child's chances of recovery, while the prostration is also increased by the ineffectual enemas.

Pyloric Stenosis

Vomiting is a constant symptom in this disease, and is usually seen in the first two months of life—more often in the first two or three weeks. It may at first be only occasional, but as a rule rapidly becomes habitual, occurring after each feeding. It is almost invariably projectile in type, being forcible from the very beginning. It has no relation to the character of feeding. A large proportion of cases is seen in the breast fed infant. Fully four-fifths of the cases occur in male infants, there seemingly being no explanation for this fact. Sometimes two or three feedings may be taken before vomiting occurs and then the whole amount is vomited at once, but this is rare. Visible peristalsis is almost a constant symptom and is best observed immediately after a feeding. A ball-like tumor about two inches in diameter appears just below the ribs on the left side, and gradually moves to the right, usually disappearing just beyond the median line, while a second ball-like wave is frequently seen beginning on the left before the one disappears on the right. A small tumor is palpable in a majority of cases, but it often requires a great deal of patience and perseverance on the part of the examiner to elicit this symptom, as it is sometimes only felt during active peristalsis, and may be located behind the liver and not palpable at all. The region in which it is most often felt is at a point just about two inches below the free border of the ribs and just inside the right mammary line. This usually corresponds to the point of disappearance of the peristaltic waves. The size is about one-half of an inch in diameter and one inch long. There is obstinate constipation, and, if the obstruction is complete, the stools resemble meconium. There

is a rapidly progressive loss of weight. It is important to recognize the cause for this type of vomiting as early as possible, as the loss of weight soon becomes a serious matter, and unless proper treatment is instituted before one-fourth of the body weight is lost, the condition becomes critical. The characteristic symptoms are vomiting of a projectile type, occurring in the first two months of life, visible peristaltic wave, palpable tumor, constipation and a rapid loss of weight. Too much time should not be consumed in medical treatment, such as thick cereal feedings, gavage, and the administration of atropine, but unless the symptoms are urgent and the loss of weight very rapid, one is perhaps justified in giving such means a very brief trial. However unless almost immediate benefits are derived from such treatment, surgical intervention should be insisted upon, as it is a simple and relatively safe procedure in the hands of a competent surgeon and offers the best prospect for a permanent cure if done at the proper time.

Pylorospasm

This condition may present much the same picture and is often hard to differentiate from a hypertrophic pyloric stenosis but the symptoms are not as pronounced. There is no palpable tumor and food elements are usually found in the stools. The administration of atropine will relieve the symptoms in the majority of cases.

Appendicitis

This is considered a relatively rare disease in infancy and early childhood by many observers. On the other hand, Sheffield makes the following statement: "In view of the frequency in which the vermiform process is found implicated in the course of infantile gastro-intestinal disease and its tendency by its relatively greater length and width to favor lodgment of foreign bodies, there is ample reason for the belief that as a whole appendicitis is as common in children as in adults." My own observation gives the impression that it does occur less frequently in infants and young children than in older children and adults. However, it unquestionably does occur with sufficient frequency to merit serious consideration in the vomiting child when no other cause is obvious, and it is probably often erroneously diagnosed or ascribed to such conditions as food disturbances, cyclic vomiting, and the like. The diagnosis is much more difficult in infants and young children than in the adult. Vomiting is a constant symptom even in the moderately severe cases. Localized pain and muscle rigidity is more difficult to elicit than in older children or adults, and when tenderness can be localized it is often at a much higher point in the abdomen than is usual for older children and adults and may simulate gall-bladder infection or pneumonia. The pain is usually accentuated by forcibly straightening the right leg, and there is often a tendency to hold the leg and thigh in a flexed position. The blood picture is of great value and should never be omitted. A rectal examination will also aid in the diagnosis. In cases with recurrent attacks an X-ray examination may yield valuable information and is of great value in the differentiation from pneumonia. A careful analysis of the symptoms is necessary, but with the proper interpretation of the physical and laboratory findings a correct diagnosis can be made in the majority of cases.

Brain Tumors

Vomiting may be a troublesome symptom in tumor of the brain. When it occurs, it is forcible in character, often without nausea, and has no relation to feeding time. Other associated evidences of intracranial pressure are present, such as headaches, optic neuritis, sometimes general convulsion, mental dullness, giddiness, and nystagmus.

Brain Abscess

Brain abscess may present very much the same picture, and vomiting may be a troublesome symptom. In addition to the symptoms mentioned above, there is usually a history of chronic aural disease preceding the attack.

Hydrocephalus

This condition may produce the same type of vomiting, but other evidences of the disease, such as abnormal increase in the circumference of head and bulging of fontanels usually develops before the vomiting begins.

Acidosis

Acidosis is more often a result of vomiting than a cause. However, vomiting is so often such a serious problem to deal with in the management of acidosis that it is probably not out of place to consider it in this connection. The term is often loosely applied to all cases in

which there is an acetonuria. More properly the term should be restricted to those cases in which there is a shifting of the acid-base balance of the body definitely toward the acid side. Vanslyke suggests that the extremes of reaction in the human blood compatible with life lie approximately between ph_7 and $ph_{7.8}$ —the normal range being within limits no greater than $ph_{7.3}$ and $ph_{7.5}$ or possibly somewhat narrower,—so that normally the blood is only slightly alkaline, so far as its reaction is concerned, but it has the power of neutralizing quite a large amount of strong acid before its reaction is changed. Hyperpnea, or air hunger characterized by deep pauseless respiration with moderate increase in rate, is the only reliable and pathognomonic clinical symptom. The lips and cheeks are often a very bright cherry red, but this sign may be absent. A fruity odor of the breath is often present and is of some value in diagnosis. Acetonuria may or may not be present, and is often found in other conditions than a true acidosis. The above mentioned symptoms, when carefully analyzed in connection with the history of the case, will usually lead to a proper diagnosis. The diagnosis may be further confirmed by other laboratory tests, such as the determination of carbon dioxide tension in the alveolar air, and a determination of the bicarbonate reserve of the plasma and tolerance for alkali.

In the treatment for acidosis, the chief points that have to be considered are (1) the underlying causes, (2) the prevention of a further production of more acids, (3) replenishing the alkali reserve, and (4) the elimination of acids and their salts. Because of reduced blood volume which is present in most cases, the administration of large quantities of water is indicated—by mouth if it can be retained. If this is not possible, Ringer's solution or saline should be given sub-cutaneously or intraperitoneally. The administration of glucose is indicated in all cases of non-diabetic acetone body acidosis. From two to four ounces of 5 per cent solution can be given by rectum at four hour intervals, or a 5-10 per cent solution by mouth in quantities dependent upon the age, weight and tolerance of the child, or it may be given by way of the nasal passages at a slow rate by means of a catheter, or intravenuously in varying strength, the volume by this route not to exceed one-fiftieth of the body weight at any injection. Insulin glucose therapy may augment the utilization of glucose in the body. One unit of insulin will cause the utilization of from two to three grams of glucose, but it must be borne in mind that there is already a hypoglycaemia present in the majority of cases, so that an amount of glucose in excess of the quantity utilized by the insulin must always be given. The administration of alkali should probably occupy a secondary place in the treatment of acidosis. Sodium bicarbonate may be administered in 15 to 30 grain doses by mouth every four hours, or intravenuously in from two to four per cent solution. Blood transfusions are indicated in some of the severe cases. Carbohydrates should be administered freely by mouth in the form of cereals, to which sugar, maple syrup, karo, or honey has been added; also fruit juices and malted milk are often well tolerated.

Cyclic Vomiting

This condition was formerly considered a type of acidosis; more recent studies have, however, shown that while the presence in the urine of acetone, diacetic acid, and oxybutyric acid are almost constant findings and occur early in the attack, the point is emphasized that acetonuria is not the same as acidosis, and that true acidosis is rare in cyclic vomiting, but may occur in the late forms. True cyclic vomiting is characterized by periodic attacks of vomiting which occur at regular or irregular intervals of weeks or months, apparently without adequate exciting cause. The usual duration of the attack is two or three days, when it ceases spontaneously. The age at which the first attack is more commonly seen is from two to four years, but may occur in younger children. The majority of cases are delicate children of nervous temperament, and usually there is a neurotic family history, although it may occasionally be seen in the robust type. The attacks are often preceded by a prodromal period of a day or two, characterized by langour, anorexia, dullness, and a sense of epigastric discomfort. The vomiting begins suddenly, is often repeated every half hour to hour for two or three days, and is immediately excited by taking food. The vomited matter consists of frothy mucus which is often streaked with blood. Signs of exhaustion are marked. There is rarely any abdominal distention. The periodicity of the attacks, occurring in the delicate neurotic child without

any definite cause, is the distinguishing feature. The condition is apparently uninfluenced by any treatment. Should acidosis develop, appropriate methods for combating that complication should be resorted to. Between the attacks avoidance of over-feeding is important. The alkaline treatment over a long period of time has been advocated, but is of doubtful value.

Habit Vomiting or Rumination

This is not an infrequent type of chronic vomiting in the neurotic child. It is more frequently seen in girls than in boys, and usually begins in the first six months. The child often has a neurotic family history, is usually irritable, and cries long and hard from the slightest discomfort. This form of vomiting most frequently begins a few minutes after food is taken, but in rare cases may be delayed for several hours. If the child is carefully observed, it will be noted that the condition is frequently preceded by sucking of fingers. Food is brought up into the pahrynx, and the tongue is moved backward and forward with a grinding movement of the lower jaw in an apparent attempt at swallowing; this is usually accompanied by a gurgling sound, which is soon followed by regurgitation of large amounts of food. The condition is often serious and may lead to grave symptoms. The characteristic features are the habitual movements of the lower jaw, to and fro movements of the tongue, apparent attempt to swallow after feeding, the regurgitant type of vomiting (it is never forcible), and a neurotic history. An exhaustive search should always be made for other evidences of disease before a positive diagnosis is made.

Treatment: Taylor and Morse report good results from tying up the lower jaw; others report good results from tying the hands so that the fingers cannot be placed in the mouth, attracting the attention of the baby immediately after nursing by ringing a bell, or by a rattler or even the use of a pacifier as a means of a diversion. The semi-erect position after feeding is likewise said to produce good results. Often the use of thick cereal feedings will promptly control the vomiting when the thinner liquids cannot be retained.

Dentition

The tendency which was prevalent for such a long period to attribute so many of the gastro-intestinal upsets occurring between the ages of six months and two years to "teething" has greatly diminished. As a matter of fact, active local manifestations of dentition can practically always be seen in children of this age, and the existence is merely a coincidence in the large majority of cases. It cannot, however, be denied that attacks of indigestion with vomiting are more easily excited during a period of active dentition, and this is especially true in the rachitic, neurotic or otherwise delicate child.

Acute Infections

Many of the acute infectious diseases are ushered in with an attack of vomiting as the first symptom. This is notably true of scarlet fever and acute infections of the respiratory tract, such as influenza and pneumonia. If a careful examination is made other evidences of the infection are practically always present. Pyuria is also a frequent cause of vomiting in children. In certain types of pneumonia the gastro-intestinal symptoms are the most prominent features in the beginning of the infection and often the only evidence of disease present. The vomiting may be a serious complication throughout the entire course of the disease. Goodman, of Lenox Hill Hospitl, New York, has found that many of the pneumonias in children are complicated with a mild pneumonococcic peritonitis which usually subsides with the clearing up of the pulmonary lesion. This complication obscures the pulmonary picture by its effect on the respiratory function, and makes the diagnosis more difficult. The X-ray is of great aid in the diagnosis of these types of pneumonia.

Vomiting in the New-Born

Vomiting in the new-born may be due to gastro-intestinal irritation from swallowing maternal discharges. The vomiting usually comes on in the first twelve hours of life and may be slight or severe. Lavage with normal saline or 2 per cent solution of sodium bicarbonate is the most effective method of control for this type of vomiting. Attempts to force too early feedings will often cause vomiting in the new-born; this can be avoided by taking no milk mixture for the first forty-eight hours, but a 5 per cent sugar solution instead. Vomiting in the new-born may also be due to toxemia, and may frequently result fatally in the off-springs of toxemic mothers. The vomiting often begins in the first twenty-four hours,

and babies have been known to die of convulsions from nursing toxemic mothers. Intracranial pressure in the new-born may be the cause of vomiting, which is explosive and refractory. It is more often due to intracranial hemorrhage and is accompanied by other striking signs of brain disturbance. Vomiting in the new-born may be due to congenital defects in the gastro-intestinal tract. In esophageal stenosis the infant will take a few swallows of food and immediately regurgitate the whole amount. The diagnosis is easily made by the passage of a bougie and the X-ray. In intestinal atresia the vomiting will usually come on in the first two or three days of life. If the stricture is above the portion of the duodenum into which the bile duct empties, there is no bile in the vomited matter, though the stools will usually contain bile, mucus and blood but no food elements. If stricture is below the bile duct there is bile in the vomited matter but none in the stools.

Vomiting is a prominent symptom in peritonitis from acute pyogenic infections in the new-born. There is usually associated abdominal distention and tenderness, with pouting of the umbilicus and evidences of umbilical arteritis. These conditions are rare but should be borne in mind in the consideration of vomiting in the new-born.

The above conditions constitute a large percentage of the causes for vomiting in infants and children outside of a much larger group due to food disturbances, and constitute about 20 per cent of the cases in which this symptom is troublesome. Food disturbances are responsible for about 80 per cent of these cases in infants. The cause is easily recognized in the majority of cases and a proper adjustment of feeding is all that is usually necessary. I shall only mention some of the common errors responsible for this group:

The disturbance may be due to improper feeding of a normal infant, or a child may develop an intolerance for some ingredient of a well-balanced formula. This is probably more often true of fat than of any other element of the infant diet, and, when once established, is difficult to overcome. The stools are dry, clay colored, with a rancid odor, and are, as a rule, acid in reaction. Sugar intolerance is less frequently seen; when it does occur, the stools are of a greenish color, often grass green, watery, acid in reaction, and the buttocks soon become excoriated. Tolerance for sugar is more easily re-established than is the case in fat intolerance. The chief symptom in either case is vomiting. It may occur soon or long after feeding. In some cases it is only occasional and in large quantities, but it is more common for frequent regurgitations of small amounts of food to take place. The vomited matter usually consists of a sour, irritating fluid, usually a good deal of mucus, and is often accompanied by the belching of gas. Over-feeding is very often the cause of vomiting. The child will show evidences of discomfort with colicky symptoms and abdominal distention, and vomit most of the feeding, when relief of symptoms will often immediately follow. Too little food may also occasionally be a cause. When an insufficient quantity is given, the child will become restless and fretful after feeding and finally vomit. These symptoms are often mistaken for indigestion, when a further reduction of food may be made, but the distinguishing features are the lack of gastric distention, there being usually no evidence of indigestion. Too frequent feeding is likewise a common cause, although the formula may be suitable for the age and digestion. Among other causes might be mentioned improper temperature of food—either too cold or too hot,—improperly balanced food, too much fat, too much sugar and, less frequently, too high protein content; also, unsuitable articles of food, improper handling of foods, bottles and nipples. Important points to ascertain in any case of vomiting are—age of child, duration of attack, frequency, quantity, relation to feeding, type, whether forcible or regurgitant; character, whether mucus, bile or blood is present, onset, whether sudden or gradual; odor and condition of bowels. A careful feeding history should always be obtained with special reference to the kind of foods given, quantity and interval between feeding.

I realize that this is a very rambling and inadequate presentation of such a large and important subject, but my only excuse for attempting to bring to your attention a few of the problems in this connection is the hope that your thoughtful consideration of some of these troublesome points that I have attempted to emphasize may prove of some value in dealing with some of these troublesome conditions.

Columbus was no quitter. That's why every man, woman and child knows who he was, although his death occurred over four hundred years ago.—*selected.*

THE CARE OF CASES OF TRAUMATIC RUPTURE OF THE MALE URETHA.

F. R. CRAWFORD, A. B., M. D., Kashing, China.

(Has returned to Farmville since submitting this paper.)

Traumatic rupture of the male urethra is a rare accident, but one, that when seen, demands immediate attention. The writer has operated upon about fifty such cases in his experience in China. Ten of these have been operated upon in the past two years. All of these cases have been operated upon in the Southern Presbyterian Mission Hospital at Kashing. The records of the cases operated upon prior to 1930 are not in convenient shape for reporting. A summarized report of these ten cases, together with certain conclusions derived from the experience with the larger group, will be presented with the hope that the report may be of interest.

Cause and Incidence. There being no automobiles in this district, the severe injuries with fracture of the pelvis and rupture of the bladder are not seen. The cases encountered here are almost altogether in boatmen. They result from a fall where the patient has struck astride some object, the gunwale of a boat, for instance, and crushed the urethra against the pubic bone. These ten cases were encountered in a two year period during which 2,858 surgical cases were treated in the wards of this hospital. This is an incidence of 0.35 per cent.

Diagnosis. The diagnosis presents very little difficulty. There is always the history of a fall and of having struck aside some object. There is usually the history of blood from the urethral meatus and always a certain amount of urinary retention. The retention is not necessarily complete, as the patient may be able to pass a few drops at a time. One of the cases reported herewith, No. 28239, came in with a history of having fallen twenty-one days previously. Until four days before admission he was able to pass his urine with difficulty. On admission, a catheter was passed down to the beginning of the bulbous portion of the urethra and about 30 c.c. of urine withdrawn. The catheter could not be passed beyond this point. At operation a completely severed urethra was found with a small cavity at the point where the catheter had been held up. Inability to pass a catheter to the bladder is always encountered. Swelling and ecchymosis are present in practically 100 per cent of all cases. As a rule, the swelling is very great, involving the whole perineum, the scrotum and the penis. At times it is so great that it is difficult to expose the glans for catheterization. The ecchymosis is also very extensive, extending over the whole perineum, the scrotum and the adjacent portions of the thighs. As a rule the skin is unbroken.

Interval That has Elapsed Between Injury and Admission. The interval that has elapsed between injury and admission varied in these ten cases from a few hours to twenty-one days. The average was 3.9 days, counting those who came within the first twenty-four hours as one day. If the case that waited for twenty-one days is excluded, as it should be, the average is two days. One waited three days and two for four days before coming in for relief. The accompanying table summarizes the data with regard to interval between injury and admission, degree of injury, days in hospital and result.

Treatment. All of these cases are treated as emergencies. When a suspected case comes in, an attempt is made to catheterize him. If this is successful it is concluded that he has a contusion only. In no real case of traumatic laceration of the urethra has the writer ever been able to pass a catheter. Failing to pass the catheter, the patient is prepared for operation at once. The choice of anaesthesia is optional with the surgeon. The writer has found ether the most satisfactory. The patient is placed in the lithotomy position,

Case Number	Duration	Degree of Injury	Days in Hospital	Result
25056	3 days	Not recorded	38	Healed
26645	1 day	Lacerated	15	Healed
27221	4 days	Severed	12	Vesico-rectal fistula
27374	"At once"	Lacerated	26	Healed
27602	4 days	Severed	14	Healed
28239	21 days	Severed	30	Fistula
29078	20 hours	Severed	20	Healed
29124	20 hours	Lacerated	66	Healed
29150	16 hours	Lacerated	41	Healed
29244	2 days	Severed	21	Healed

cleansed and partially draped. A rather large, new, rubber catheter is inserted and passed as far as possible. The draping is then completed, the penis and protruding catheter being covered. The catheter has given some idea as to the site of the injury, the common location being the bulbous portion of the urethra. If this is the case, the incision is then made in the midline, starting at the posterior edge of the scrotum and extending back towards the rectum for a distance of three to five cm. This incision is carried with one sweep of the knife through all tissues until clots are encountered. The deeper layers are incised to the full extent of the skin incision. One then finds himself in a cavity which has been hollowed out by the bleeding and is filled with blood clots. These are removed manually and the end of the rubber catheter is, as a rule, at once seen. This will be found protruding from the distal end of the completely severed urethra, or from the laceration in those that are incompletely severed. The extent of the injury is next determined. There is, as a rule, not a great deal of bleeding from the walls of the cavity but the torn ends of the urethra bleed freely, bright red blood. Unless this bleeding is too copious or too troublesome, it may be ignored for the time, the subsequent sutures caring for it very nicely.

If the laceration is incomplete, it is usually possible to see the glistening mucous membrane of the inner wall of the urethra. If this is the case, the previously placed catheter is drawn down into the wound and the proximal opening of the urethra sought by directing the tip of the catheter backward and inward, hugging the glistening surface. If in this way the opening is not found it is sought for with a metal catheter. If, on the other hand, the urethra has been completely severed, the torn ends are apt to be separated by a little space, and the location of the proximal opening is much more difficult. In some cases considerable time is consumed. In a total of about fifty cases it has never been the writer's misfortune to fail to find the opening. Should such be the case a suprapubic cystotomy is undoubtedly indicated, followed by retrograde catheterization. Once the opening is found and proven by the withdrawal of urine, the mucous membrane should be picked up with Allis clamps, the metal catheter withdrawn, and the rubber catheter passed to the bladder. Again it is important to prove that the catheter is in the bladder by withdrawing some urine, after which the meatal end can be clamped. This question of proving that the catheter is in the bladder is important because, owing to the separation of tissue layers by the clots, it is often possible to pass a catheter very deep, using a minimum of force, until one feels that he must be in the bladder and yet not have entered the urethral canal at all.

The closure of a completely severed urethra about the catheter is not easy. Long shreds of tissue should be cut away, but the writer makes no effort to trim the ends of the urethra until they are even. The catheter is grasped where it is exposed at the gap in the urethra, between the severed ends and is drawn out into the wound doubled upon itself. Care is taken not to displace the end from the proximal portion of the urethra. Thus the inner walls of the ends of the urethra are brought into view. The distal end of the urethra is then picked up and a curved needle of proper size, carrying a No. 0 chromic catgut suture, is placed in the midline of the inner wall, passing from outside the urethra through all coats, including the mucous membrane. The proximal end is then picked up and the same needle and suture is made to pierce all coats in a corresponding position but in the reverse order. Three such sutures are placed, one in the midline and one to either side. The ends of the urethra are then drawn together and the midline suture tied first, rotating the urethra slightly to accomplish this purpose. After the three have been tied, the catheter is replaced and the remainder of the circumference is closed in a similar manner. This is then followed by two or three mattress sutures. These last not only support the first line but assist in maintaining the calibre by preventing retraction of the two ends. One then again assures himself that the catheter is in the bladder, after which the perineum is closed, usually in two or three layers, with one or two cigarette drains. Drainage is important, but the writer rarely finds it necessary to leave the wound open as is the custom of some operators. The dressing is so designed as to exert moderate pressure.

Subsequent Treatment. The drains are left for two or three days and rarely replaced. The stitches are removed in about ten days. As a rule the healing is by first intention. It is rare for a wound to completely break down. The catheter should be left in for three weeks.

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If there is reason for so doing, it may be changed after ten days or two weeks. Of course all of these cases should be followed for months and dilatations done. This is rarely possible in China because of the fact that the patient does not realize the necessity for it, he is usually from among the poorest of the people, and he is apt to question the unselfishness of your advice. Our patients are told to return for dilatation and the probabilities are that if they experienced serious difficulty in voiding they would return. The fact that the writer has been doing these operations here for fifteen years and does not recall a single old case returning for a stricture, despite the fact that there are many cases of stricture seen, may or may not mean that these cases do not develop strictures during the first fifteen years. China is a land of paradoxes. The fact remains that we have no data on late results that is of scientific interest.

Immediate Results. From a study of the table presented, it is not possible to form ahead of time any very definite opinion as to the prognosis of any individual case. The time that has elapsed between injury and operation does not seem to be a determining factor, provided it has not been so great as to allow of the formation of scar tissue. In one of the two cases in which an unsatisfactory result was obtained the time element was undoubtedly a factor. This was case No. 28239. Here twenty-one days had elapsed. The case which showed the best result when all factors are considered was probably No. 27602. He had been injured four days before admission. His urethra was completely severed. Yet he left the hospital after fourteen days with a wound that needed only a little more time for epithelization, with ability to void and no leakage. Including this case, eight, or 80 per cent, left the hospital healed. The average stay of these eight patients was just over twenty-seven days, the shortest being fourteen and the longest sixty-six days. The poorest result, on the other hand, was patient No. 27221 who also came in after four days. This man's urethra was also completely severed. Here the wound was relatively far back. The tissues were greatly swollen and lifeless in appearance. There was marked sloughing of the wound. The drainage catheter did not function and had to be removed. The patient developed a dysentery and left the hospital against advice on the twelfth day. It was thought that there was a vesico-rectal fistula. Where there has been widespread extravasation of urine, the outlook is not so good. The previous state of the urethra as regards infection will of course play a marked role in the healing. The fact that venereal disease is rare among the country population of China has undoubtedly favorably affected the results obtained here. These factors seem to be of more importance than the time factor, unless there has been sufficient time elapsed to allow of scar formation. Undoubtedly any scar formation is a serious handicap as shown in patient No. 28239, referred to above.

Conclusions. From our experience, a satisfactory result may be looked for in 80 per cent of these cases, following adequate exposure and accurate suture of the urethra, if the case is seen within a reasonable time after the injury.

CONVERGENCE-INSUFFICIENCY AND DIVERGENCE-EXCESS.*

EDWIN BURTON, A. B., M. D., University, Va.

Convergence-insufficiency and divergence-excess are fairly frequent muscular anomalies. They may be easily detected and precisely measured by very simple methods. In order to effectively deal with either, it is paramount that a differentiation between these two conditions be made. They may be, therefore, conveniently discussed together. I am greatly indebted to Duane and Dunnington for much of the material contained in this article.

Convergence-insufficiency is a rather frequent condition. It is said that about 8 per cent of eye examinations will reveal this form of muscular imbalance. This does not imply that all, or even a majority, of these cases produce symptoms, for a great many do not. A definition may be best expressed by Duane's[1] words: "Convergence-insufficiency is a condition the distinctive feature of which is that the eyes converge imperfectly or with difficulty, the disability not being due to impairment in power of the internal recti *per se*." Convergence is accomplished by a contraction of the interni associated with relaxation of the externi. It is an active process and obviously concerned with our near vision. For this reason any symptoms caused by a convergence-insufficiency will be most marked at close range; and, similarly, this condition can be

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best detected when the muscle tests are done at thirteen inches.

Divergence-excess is also common as a primary condition. It may, however, be present for a number of years before our attention is directed to it. For a long time it was thought that the act of divergence was a passive condition brought about simply by relaxation of the interni. I think we must agree with Dunnington[2] "that it is an active as well as a passive affair which is brought about by the simultaneous equal contraction of both external recti accompanied by the simultaneous relaxation of both internal recti." It is probably controlled by the divergence center, or by assuming that such a center does exist. We may define divergence-excess as an abnormally strong tendency for the eyes to diverge when fixing a distant object, this being brought about by over stimulation of the divergence center. Hence, the symptoms that may be caused by divergence-excess are more annoying to the patient at a distance of twenty feet or more, and to diagnose a case of divergence-excess, the muscle tests should be made at a distance of twenty feet.

Diagnosis

In both convergence-insufficiency and divergence-excess the lateral movements of the eyes inward and outward are normal in extent and comitant. Diplopia, if present, is crossed and does not increase when the eyes are turned to the right or to the left. However, double vision due to a convergence-insufficiency increases as the object is carried towards the eyes and decreases as it is carried away from the eyes. The diplopia caused by divergence-excess is present only at a greater distance and increases as the test object is carried away from the eyes. In order to clearly distinguish these two forms of muscular imbalance I should like to emphasize again that the muscle tests be done both at twenty feet and thirteen inches. A pure convergence-insufficiency shows a deviation that is directly periodic, i. e., little or no deviation at twenty feet and an exophoria at thirteen inches. The convergence near-point, the most accurate of all near tests, will be found remote. The prism convergence is subnormal, the prism divergence is unaffected. The amount of exophoria at thirteen inches and the recession of the convergence near-point usually vary directly.

Convergence paresis[3] is a marked form of convergence-insufficiency. It is of sudden occurrence and is usually due to a localized lesion or a functional disturbance of the nerve centers. According to Uhthoff about 3 per cent of the cases are caused by multiple sclerosis. For distance there is little or no deviation, but exophoria and crossed diplopia occur and increase *pari-passu* as the test object is approximated. After the diplopia has set in it is practically insuperable. There is no convergence but the lateral movements of the eyes are unaffected. The convergence reaction of the pupil is usually absent (reverse Argyll-Robertson).

A case of pure divergence-excess shows little or no deviation at thirteen inches with normal convergence near-point and prism convergence. The abnormal findings are revealed when the muscle tests are made at a distance of twenty feet or more. There is marked exophoria at this distance, i. e., the deviation is indirectly periodic. I agree with Dunnington[4] that "A case can be just as true a divergence-excess with five degrees as one with forty degrees." The prism divergence is over eight degrees and may be twelve, fifteen, twenty degrees or more.

A convergence-insufficiency may completely disappear if the causes which produce it can be found and readily removed. Frequently, however, a divergence-excess becomes superadded as a secondary factor. On the other hand, a divergence-excess may become complicated by a secondary convergence-insufficiency. In either instance, ordinary continuous divergent squint is the ultimate result. This develops most commonly, according to Duane, from a convergence-insufficiency. He has listed the steps of such a change essentially as follows: (a) Marked exophoria for near with at first a normal near-point of convergence; orthophoria for distance, and normal diverging power (periodic exophoria). (b) Beginning divergent squint for near with recession of the convergence near-point; beginning exophoria for distance with increase in the prism-divergence (periodic divergent squint). (c) The periodic squint is converted into a continuous squint. (d) Muscular changes (contracture of the externus, stretching and weakening of the internus), producing absolute impairment of rotation inward and excess of rotation outward.

A continuous divergent squint develops from a divergence-excess by the reverse process, that is: (a) Exophoria for distance with excessive prism-divergence with normal near findings (periodic exophoria). (b) Beginning diver-

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gent squint for distance with crossed diplopia and further increase in prism-divergence; beginning exophoria for near, but with convergence near-point normal (periodic divergent squint). (c) Marked increase of the exophoria for near, and gradual recession of the convergence near-point (consecutive convergence-insufficiency). Squint for near less than for distance. (d) Conversion of the periodic into a continuous squint. (e) Muscular changes as above.

Causes

Convergence-insufficiency is usually classified as accommodative and non-accommodative. The former occurs in patients who really have full power of accommodation, but who for some reason use only a portion of this power. The power to converge being intimately associated with the accommodation is thereby weakened. This form often occurs in uncorrected myopes, and in hyperopes and presbyopes who put on convex glasses for the first time. These patients do not use their convergence to the utmost and hence, the accommodation suffers. The convergence is similarly weakened in patients who have very poor vision for near and in whom there is very little impulse to converge (visual form). Hyperopia, anisometropia, etc., are frequently present in this kind of case and the convergence-insufficiency may be relieved by the proper glass. The non-accommodative form of convergence-insufficiency comprises about 60 per cent of the cases. It may be caused by any condition which lowers the patient's general resistance, such as prolonged systemic disease, sinusitis, anemia, focus of infection, etc. We must admit, however, that many cases of convergence-insufficiency occur in young robust individuals for which no cause can be found. The causative factors which may play a part in divergence-excess are somewhat obscure. We know that it is frequently found in young adults, and it is often present for years without manifesting symptoms. It is the common impression that myopia is the most frequent error of refraction found, but Wooten has shown that divergence-excess is more common in hyperopes than in myopes. Dunnington believes that this is a mere coincidence due to the larger number of hyperopes seen. Whatever statistics may show, a divergence-excess is probably not refractive in origin. It may be secondary to a convergence-insufficiency as we have seen.

Symptoms

Convergence-insufficiency causes symptoms primarily when near work is attempted. It may be present for a long time without symptoms. Diplopia is a feature of some cases. Vertigo, asthenopia and headache are not infrequently complained of. There is often present a curious sensation of fatigue over the interni which is relieved somewhat by pressure with the finger. In addition there may be various other reflex disturbances. It is not always easy to decide whether the symptoms in a given case are due to convergence-insufficiency or to some other condition.

Divergence-excess, on the contrary, causes symptoms primarily when we look at distant objects, particularly when such objects are moving. Slight degrees of divergence-excess may not cause any symptoms. In the more marked cases, the eyes are able to maintain distant vision only with great difficulty and when this stage has been reached, headache, crossed diplopia, asthenopia, and even gastric symptoms may result.

Treatment

In the treatment of a case of convergence-insufficiency, the possible causes should be first sought and eliminated if possible. Frequently a correction of the myopia, if present, will bring about the desired result. In many instances improvement in the patient's general condition will likewise act favorably on the weakened power of convergence. A presbyope with marked weakness of convergence is often made more comfortable by adding a weaker reading glass, as in this way he is allowed to hold his book at a greater distance from his eyes with the result that less convergence is necessary. If the convergence-insufficiency after these measures does not improve and is still causing symptoms, we next resort to exercises for the interni. This is accomplished by having the patient practice converging exercises on a small test object (white headed pin) as it is carried towards the nose, or by having him exercise with prisms base out. In practising with the prisms, the test object should be at the reading distance and the strength of the prisms should be increased from time to time until a prism of fifty or even seventy degrees can be overcome. It may take several weeks before this result can be obtained. The patient should not be forced to accomplish the feat of overcoming prisms too rapidly. This does not imply that our instructions to the pa-

tient should not be explicit nor definite. We usually specify that he perform these exercises a definite number of times morning and evening. Finally, if conservative treatment has failed, a resection or other shortening operation of one of the interni must be considered, but only as a last resort. I believe the wearing of prisms base in for relief of symptoms actually does more harm than good in the end.

The treatment of divergence-excess is surgical. A small amount of exophoria does not usually cause symptoms; a larger amount would render the wearing of prisms at distance only, impractical. The operation best suited to this type of case is a tenotomy of one or both externi depending on the amount of deviation originally present. We usually operate on the eye showing the greatest tendency to diverge and an immediate over-correction is desirable. In mixed cases we have to treat both conditions giving our attention first to the primary condition.

BIBLIOGRAPHY

1. Duane, Alexander: Convergence Insufficiency, *Jour. A. M. A.*, August 29, 1914, Vol. LXIII, pp. 721, 727.
2. Dunnington, John H.: Paralysis of Divergence *Archives of Ophth.*, Vol. LIII, No. 1, 1923.
3. Duane, Alexander. Ibid.
4. Dunnington, John H.: *Archives of Ophth.* Vol. LVI., No. 4, 1927.

BULLET WOUNDS OF THE PERICARDIUM. REPORT OF AN UNUSUAL CASE.

LEWIS W. ANGLE, M. D., Kansas City, Kansas.

The course of bullet wounds in the human body is most variable. No doubt during the late wars many cases were observed, but, unfortunately, few reported. In 1910, Zesas[1] collected the records from literature and found 118 cases of wounds of the heart due to foreign bodies but no classification as to injuries of the pericardium was made. Recent literature shows the injuries of the pericardium to be very uncommon. During the World War several interesting cases were reported where the injury was due to shrapnel.

Jones[2] reports a case of a soldier who in 1915 was wounded by shrapnel which entered the left chest, the shrapnel stopping in the lower anterior pericardium. The shrapnel was removed with complete recovery.

Skirving[3] reports a case of a soldier who in 1915 was shot with shrapnel under the left axilla above the posterior axillary line. One year later he consulted his physician, complaining of pain in the chest and shortness of breath, and a history assimulating pericarditis. X-ray examination revealed a large piece of shrapnel in the posterior wall of the mediastinum, which was removed, followed by complete recovery.

Barrington-Ward[4] cites an interesting case of a British soldier who was wounded in France in 1915. The bullet entered the left chest in the mid-axillary line. There was no wound of exit. Following six weeks of hospitalization the soldier was returned to service. Six months later he suffered from sharp pains in the chest with palpitation of the heart and shortness of breath on marching. Upon returning to the hospital an X-ray examination revealed a bullet lying in the pericardium near the left border of the heart, just above the diaphragm. The bullet was removed, followed by complete recovery.

The time a foreign body may remain in the pericardium without giving subjective symptoms is a variable factor. Barcia[5] reports, in 1923, an extremely interesting case of a bullet which had been in the pericardium for twenty-two years. The bullet seemed to be located in the anterior wall. He reports that at no time has there been any appreciable disturbance, and at the present time the patient is enjoying excellent health.

In 1929 Davison[6] reports a case in which two bullets pentetrated the thorax, either of which might have caused death. The first penetrated the lung near the hilum and evidently injured one of the larger vessels, resulting in a massive hemothorax, pneumonia, and later empyema. The other injured the pericardium, resulting in pericarditis and, finally, a localized abscess of the pericardium. These bullets entered the left chest wall and were removed with complete recovery.

Hentz,[7] of the U. S. Veterans Bureau, reports, in 1929, a case in which, following a pistol shot wound in 1920, the bullet was found in the anterior pericardium, and at the present date the patient suffers no ill effects.

Stinger[8] and Mereiness[9] report cases of bullet wounds of the pericardium with removal and recovery without subjective symptoms. J. Braul[10] reports an interesting case of a bullet wound, ending in the pericardium, which had perforated the esophagus. Irger[11] reports two cases of bullet wounds in the pericardium, resulting in complications and death.

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Case Report

V. B., age 18, white, male. Entered Bethany Hospital November 27, 1930. Chief complaint: Bullet wound in head. Past history: During the afternoon of November 27th the patient and his brother were arranging to go hunting. During their preparation, while in the kitchen about six feet apart, the gun, carried by the patient's brother, was accidentally discharged. The patient fell to the floor immediately. Following early orientation, he noticed a small quantity of blood behind his right ear with a small punctured wound. The wound was dressed and patient sent immediately to the hospital.

The trip to the hospital required several hours, during which time the patient complained of a severe headache and nausea which was accompanied by vomiting, the vomitus containing a small amount of blood.

On admission to the hospital, examination revealed a punctured wound behind the right ear posterior to mastoid process (inflicted by the .22 rifle bullet) with no point of exit. Facial paralysis (right); edema of skin and subcutaneous tissue surrounding wound; nose negative; throat negative; left ear normal; right ear revealed bulging drum, inflammation of Shrapnell's membrane and of long process malleus, Weber to right, Shawbach normal, Rinne positive. Auditory nerve test normal; deafness is due to the middle ear.

Examination of Chest. Lungs: Equal diaphragmatic expansion in both sides. No areas of dullness found. No rales heard. Breath sounds normal—rate 20 per minute. Lungs essentially normal.

Heart: No murmurs heard. Rate 100 per minute. Regular. Good volume. No enlargement. Blood pressure, systolic—145, diastolic —85.

Remaining physical examination not tabulated since it was essentially negative.

Urinalysis: Straw color, cloudy, acid. Sp. gr.—1030. Albumin—one plus. Sugar—negative. Microscopic—18 to 20 pus cells to H. P. F. Blood count: Leukocytes—10,700. Haemoglobin—95 per cent.

November 28, 1930:—X-ray examination of the head reveals: A small calibre bullet has struck the tip of the right mastoid and tiny fragments of lead are distributed inferiorly to petrous portion of temporal bone (Figs. 1 and 2). There is a soft issue swelling of the post-pharynx; this offers the supposition that the main portion of the bullet passed into the pharynx and may have been swallowed.

November 29, 1930:—Fluoroscopic examination of chest and abdomen reveals, as follows: Fluoroscopic examination of the abdomen is negative. There is, however, a small calibre bullet which occupies a position at a point near the apex of the heart (Figs. 3 and 4), which moves with cardiac pulsation, and is definitely in the anterior aspect of the pericardium. An attempt to demonstrate a shift

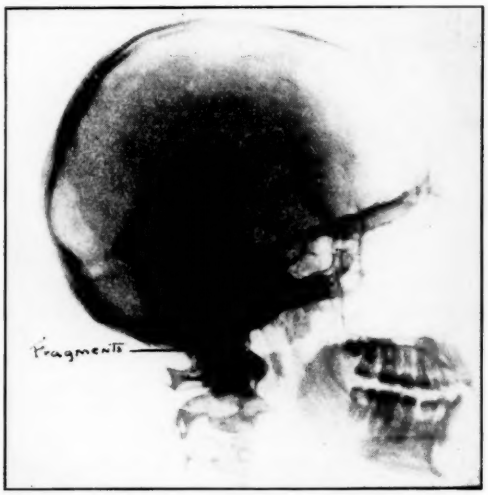

Fig. 1.—Lateral view of skull shows tiny fragments of lead scattered along the inferior of the petrous portion of the temporal bone.

Fig. 2.—Lateral view of temporal area showing numerous pieces of lead scattered around temporal bone—petrous portion.

of the shadow by changing the position of the patient was not successful.

November 28, 1930:—Patient complained of a severe headache and deafness in the right ear. There was also a slight sore throat with sore-

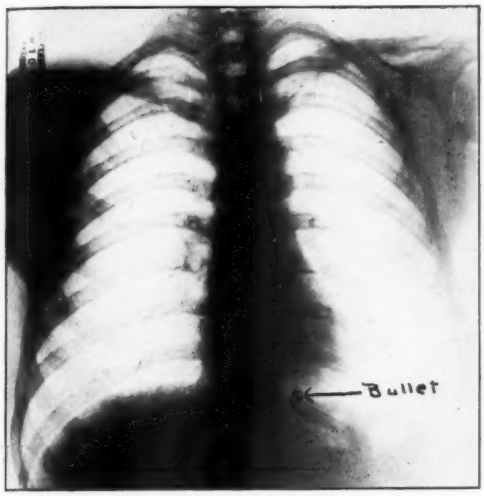

Fig. 3.—Antero-posterior view showing bullet in lower pericardium.

ness along the entire right side of neck. Temperature—99. Pulse—96. Respiration—24.

November 30, 1930:—Patient had slight nose

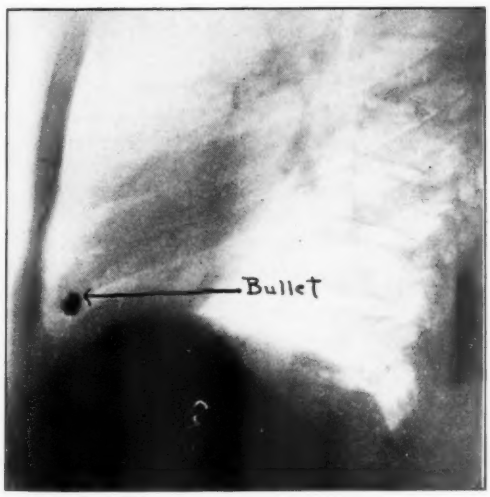

Fig. 4.—Lateral view showing bullet in lower mediastinum.

bleed. Complained of headache in temporal region.

December 2, 1930:—Headache much improved. Temperature—98². Pulse—88. Respiration—20.

December 5, 1930:—Patient complains of severe headache and earache (right).

December 10, 1930:—Patient in excellent condition.

December 12, 1930:—Patient discharged in excellent condition.

Surgical procedure was not permitted while patient was in hospital, and in a recent communication patient says he is enjoying excellent health.

Summary

Report shows the unusual course of a bullet in the human body, entering posterior to the right ear and ending in the anterior pericardium, without hemorrhage in the neck, mediastinum or lungs; without injury to any nervous structure (except temporary facial paralysis); without injury to any important structure in the body; without any reaction of the soft tissues in the neck; without infection or abscess formation. There was no evidence of pericarditis or injury to the heart, thereby showing the tolerance of the heart to foreign bodies without symptoms, two years after accident. There was no history of a previous injury from bullet; neither was there a bullet in the abdomen.

Bibliography

1. Zesas, D. G.: *Fortschritte der Medizin*, 1910, Bd. 28, Nr. 21, S. 649.
2. Jones, Litler: Gunshot Wound of the Pericardium. *British Journal of Surgery*, Vol. 4, No. 13, p. 103-107.
3. Skirving, R. Scott: Shrapnel Wound of the Posterior Wall of the Pericardium. *British Journal of Surgery*, Vol. 4, No. 13, p. 96-102.
4. Barrington-Ward, L. E.: Extraction of Bullet from Middle Mediastinum. *Lancet*, August 5, 1916, Vol. 2.
5. Barcia, P., and Pareja, J. Montes: *Revista Medica del Uruguay, Montevido*, January, 1923, 26, No. 1.
6. Davison, T. C.: Removal of Bullet from the Pericardium Under Local Anesthesia. *Archives of Surgery*, January, 1929, Vol. 18, No. 1 (Part 2).
7. Hentz, R. P.: *U. S. V. Bureau Med. Bul*, December, 1929, page 992.
8. Stinger, E.: Bullet Wound Case. *Rev. de Med. Yeir. de la Habana*, December 31, 1929, 34: 917-921.
9. Mereiness, L. M.: Cases of Isolated Wounds. *Vestnik Khir*, 1929, (No. 51), 17:47-68.
10. Braul, J.: Case History of Foreign Body Found in Pericardium Through Perforation of Esophagus. *Vrach Gaz.*, August 31, 1927, 31:1210.
11. Irger, J. M.: *Archiv. fur Klinische Chirugie.* September 9, 1930, 173-177.

600-601 *Huron Building.*

COLLES' FRACTURES.*

FRED M. DUCKWALL, M. D., Kingsport, Tenn.

This subject has been selected because it is one of the common fractures that very often falls to the general practitioner for treatment; and because there are several practical points in its treatment which, if carefully observed, will greatly reduce the disability and deformity which so frequently follows.

Formerly this was considered the most common fracture, and said to represent about ten per cent of all fractures. However, the combination of hard surface roads and rapidly moving motor vehicles has placed fractures of the skull at the head of the list by a wide margin.

No attempt will be made here, either to limit strictly to the type originally described by Colles, or to exhaust the subject with all of its variations, but rather to stress several important features in the treatment of this type of fracture and consider briefly a few of the common complications.

Let us consider a typical case which represents the features we are particularly interested in for this discussion, and which we will try

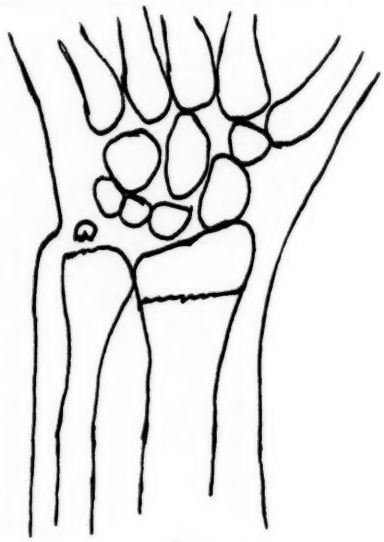

Fig. 1.

to illustrate by diagrammatic sketches. A lateral view of the wrist will show the characteristic silver fork deformity with which we are all familiar and the degree will be proportional to the amount of backward displacement of the lower fragment (Fig. 2). The anterior view will show a lateral and anterior prominence of the lower end of the ulna, and the hand will look an though it were displaced about one-half inch to the radial side (Fig. 1). An X-ray of this will show on lateral view the displaced lower fragment and the change in relationship between the articular surface of the lower end of the radius and the long axis of the bone (Fig. 2). Normally a line drawn through the long axis of the radius should meet the articular surface at a right angle (Fig. 4). In impacted and comminuted fractures this relationship may be greatly altered with very little apparent change in the general contour of the bone, due to the fact that in the backward thrust there is more pressure and greater impaction on the posterior margin of the fracture line. In such a case if the impaction is not broken up and the normal relationship of the articular surface and the long axis of the bone restored, there will certainly be both deformity and disability; and it is this type which so frequently goes unreduced. Now, if we look at an antero-posterior view, the fracture line in the radius will be seen and frequently a separation of the styloid process of the ulna, which is an avulsion fracture with a tearing of the ulnar collateral ligament (Fig. 1). This is of minor importance unless it is displaced sufficiently to become involved in the

Fig. 2.

joint. However, its position can often be improved and the ligament be put in a more advantageous position for healing. We have also seen here the importance of both a lateral and an antero-posterior view of the wrist—neither alone is sufficient.

Reduction will be much easier to accomplish and the ultimate amount of swelling greatly decreased if attempted early. Very frequently the diagnosis is sufficiently clear that an X-ray is not necessary before reduction; but every case should have an X-ray after reduction and always both views should be taken.

*Read before the Wise County Medical Society at its meeting in Norton, Va., May 25, 1932.

Nitrous oxide and oxygen is the anesthetic of choice from the standpoint of simplicity and time saving. If five to ten cubic centimeters of a two per cent novocain solution are injected between the fragments and ten minutes allowed to elapse, a very satisfactory anesthesia will result. For the best results it is necessary that the solution be injected between the fragments, and ordinary aseptic technique is safe. Ether and other anesthetics may be used if desired.

To accomplish reduction, take the patient's hand as if to shake hands—right in right or left in left as the case may be, and grip the wrist with the other hand, placing the thumb on the posterior surface at the site of the fracture. Now over extend the hand and apply pressure with the thumb, and Fig. 2 will be converted into Fig. 3. The hand is then flexed, giving the position shown in Fig. 4. Next, the hand is pronated and turned sharply to the ulnar side, giving what may be spoken of as ulnar flexion or the goose neck position. This position will tend to replace the fractured styloid process of the ulna and place the ulnar collateral ligament in a more favorable position for healing as well as restore the normal relations of the ulna and radius. With a little practice this is all done with one continuous motion, moderate traction being applied to the hand throughout the procedure. If impaction is present, it should be broken up by rocking back and forth before the reduction is begun.

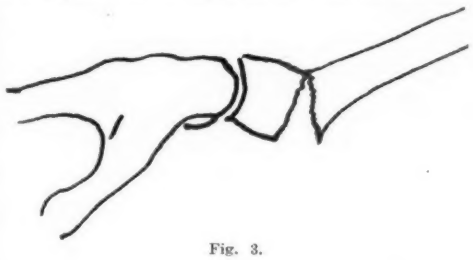

Fig. 3.

In a large per cent of cases it is desirable to immobilize the wrist and hand in this position. With the elbow flexed and held by one hand and the fingers held by the other, it is easy to maintain this position while an assistant covers the hand and forearm with glazed cotton and wraps a few layers of plaster around the entire part, including all but the fingers and thumb, and making a round or two above the elbow to prevent the cast from slipping down. After the plaster is partly dry it can be cut up the ulnar side far enough to be absolutely sure that it will not become too tight. This method of fixation has several advantages and is applicable to a large percentage of cases. However, when the styloid process of the ulna is not torn away, and the fracture is such that there is no danger of slipping, and when the normal relations of the ulna and radius have not been disturbed, parallel board splints or metal splints may be used to advantage. A word might well be said here in favor of the moulded plaster splint. However, it requires some practice and skill to become proficient in the art of moulding plaster splints.

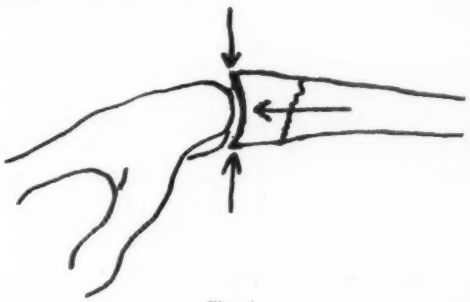

Fig. 4.

After fixation has thus been accomplished an X-ray with two views is essential. Here, again, we must observe the relationship of the articular surface and the long axis of the radius and it should correspond to that of Fig. 4.

After ten days the plaster is bivalved and the hand allowed to drop to the side. In badly comminuted cases a few more days are allowed. The plaster, if not over-thick, can now be trimmed and bent enough to be replaced in the position the hand assumes without handling. At two and a half weeks, only the anterior part is necessary and can be applied so as to allow free use of the fingers and moderate active motion of the wrist. At three to three and a half weeks the splint may be removed and free active motion begun. No severe strain should be placed on the injured wrist in less than six weeks and then only after having been gradually brought back into use.

In cases seen late it is often difficult to get position without open operation. Up to three weeks this can usually be accomplished by hand. From three to six weeks the "Thomas wrench" will usually give results without too much bruising. Later than this it is best to

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do an osteotomy, first cutting almost through the radius from the back with a thin osteotome, then reducing the deformity and holding it in ulnar flexion. The indications for this operation are, as a rule, ulnar pain and ulnar laxness rather than deformity. The reduction restores the normal relation of the ulna to the radius and allows the ligaments to shorten and maintain the normal position.

With careful treatment serious complications are not common, and prompt union practically always follows. Contracture and shortening of muscles and tendons is prevented by early active motion and avoidance of prolonged fixation.

Occasionally arthritis of the wrist joint occurs in these cases, with pain, local heat and swelling, and often marked osteoporosis will be seen in the X-ray. Here only a very limited amount of active motion should be allowed (never passive motion), foci of infection should be removed, and heat applied to the part. These cases usually terminate favorably, but often only after months of careful treatment.

Colles' fractures, then, should be reduced early, X-rayed after reduction, and special attion paid to the relation of the articular surface of the radius to the long axis, as well as to the general contour of the bone.

Plaster fixation in ulnar flexion is applicable to most cases, restores and maintains the normal relations of the ulna and radius and tends to bring the styloid of the ulna back into position when displaced. This position should be maintained as a rule ten days and rarely if ever over fourteen days.

This method of treatment with early active motion and avoidance of prolonged immobilization will give a high per cent of excellent results and reduce complications to a minimum.

ENDOCERVICITIS—SPECIAL REFERENCE TO CASE MANAGEMENT.

JULIAN M. HOWE, M. D., Washington, D. C.

Endocervicitis is a most widespread and troublesome disease. Its etiology may be divided into two general classes: First, gonorrheal; more often seen in nullipara. Second, septic or traumatic; more frequently seen in multipara or cases that have aborted. According to conservative statistics, endocervicitis occurs in from 70 to 80 per cent in multipara and 7 to 12 per cent in nullipara.

Many cases of endocervical infections may be traced back to a fetal condition where the gland bearing columnar epithelium is not confined to the cervical canal, but extends on to the portio. The infection may follow one of the acute exanthemata, or from a colon infection caused by improper care during an attack of diarrhea. Ovarian dysfunction and anemia reduce the general health, lowering the acidity of the vagina to the point where the normal vaginal flora no longer encounter conditions conducive to optimal growth, then other bacteria and pyogenic organisms may invade the vagina and grow, inducing an infection of the cervix.

Pregnancy up to the sixth month is not a contraindication for the treatment of endocervicitis. A large number of women go into labor with an eroded and infected cervix. I have observed a number of cases which developed a fever several days following delivery for which no other focus of infection could be found.

Pathological changes which take place in the cervical endometrium bring about an infiltration of the round cells into the sub-epithelial tissue around the glands. This stimulates the glands to proliferation and increases their activity, producing a mucous secretion. Some of the glands then become distended and covered with a single papillary layer of epithelium, closing the glandular ducts. This produces the nabothian follicles which can be felt with the examining finger. Eversion of the cervix is an overgrowth of endometrium in the cervical canal going beyond its normal limits on to the vaginal part of the cervix. This gives rise to a red, raw, eroded appearance upon inspection.

The most characteristic symptom of endocervicitis is a vaginal discharge, usually mucopurulent in nature, in contradistinction to that from the uterus which is serous in character. Accompanying symptoms, such as backache, pelvic soreness and tenderness, and a sense of weight in the pelvis, are often noted.

The results of chronic infection of the cervix, such as cystic changes in the ovaries, chronic salpingitis, and chronic endometritis often cause sterility, menstrual disturbances, and several cases of stricture of the ureter have come under my observation in which I feel reasonably sure that an old chronic endocervicitis was responsible, due to extension of the infection by way of the lymphatic channels.

The more serious phase of endocervicitis is the pre-cancerous cervix. Cancer is probably never a primary development, and, wherever it appears, there has been a pre-exisiting lesion. A lesion which does not tend to heal of itself is without question a factor in the causation of cervical cancer.

Care must be used in treating an early case of endocervicitis because of the danger of precipitating an acute pelvic inflammatory process. Rest should be advised in conjunction with palliative treatments, such as hyperemia, local applications of some mild antiseptic, followed by medicated tampons. A good procedure to follow is first to wash or mop the vagina and cervix through a bivalve speculum with a 5 per cent soda bicarbonate solution. A Bier hyperemia cup, the largest size that will pass through the speculum, connected to a Bigelow 220 c.c. syringe, is placed over the cervix and suction is made for from three to five minutes; then the pus and mucus is removed and the cervical canal cleared. A pledget of cotton saturated with 10 per cent silver nitrate solution is introduced into the cervical canal to remain from three to five minutes followed by the insertion of a medicated tampon against the cervix. After the acute inflammation has subsided, vaginal diathermy may be used to advantage, especially if there is an involvement of the tubes.

One must not fail to treat Skene's glands, first by massaging the urethra and its surrounding glands, followed by irrigation with a ball pointed needle and syringe with a 5 per cent soda solution and followed by injections of 15 per cent argyrol solution.

Procedure for Cauterization

The patient is put in the dorsal lithotomy position, a bivalve speculum introduced, and the vagina and cervix cleansed with a non-irritating antiseptic. The plug of mucus is removed from the cervix with an alkaline solution and a cotton pledget of 10 per cent cocaine or 4 per cent butyn may be left in the canal for four or five minutes. The cervix may then be grasped by a pair of Volsellum forceps and drawn up into view. With a nasal tip cautery, beginning as near the internal os as possible and drawing the tip of the cautery toward the operator out on the cervical lip not to exceed 5 mm. in depth, about three striae anteriorly and three posteriorly should be sufficient. However, several additional striae are often needed on the cervical lip to destroy the erosions. The current is controlled by a hand button, and when the patient complains of cramp, the hand button is released. The cramp is due to the muscular contraction of the internal os, or perhaps to the heat generated inside the cervical canal. One cauterization may be sufficient; if not, the treatment may be repeated at intervals of two to three weeks.

The patient is warned to expect some slight bleeding, either immediately or when the slough separates. She is instructed to wear a pad for a few days, because the discharge is increased almost immediately. After about seven days, if the whole endocervix has been cauterized at one time, it has a dark gray necrotic appearance and quite some odor. If the odor is too offensive, and as a precaution, each day the cervix is painted with 4 per cent mercurochrome, and douches of one ounce of lacto-dextrin to one pint of warm water may be given daily. The necrotic material disappears, usually after two weeks, and as a rule after the sixth week the patient may be discharged as cured.

Treatment by Conization

The results from treatment by conization are very satisfactory, due to the fact that it removes not only the diseased glands in the mucous membrane lining, but also the tissue in which they are imbedded, thereby promoting lymphatic drainage, so important for complete cure. The relining of the cervical canal proceeds rapidly and eventuates in a cervix with intact anatomical structure and a canal lined by squamous instead of the original columnar epithelium.

Conization has for its object the eradication and destruction of the diseased endocervical mucous membrane with its contained glandular structures, and this is accomplished with the preservation of the underlying muscle as well as the uninvolved tissues.

Procedure for Conization

Local anesthesia only is necessary to insure a painless operation, making it an office procedure with no economic loss to the patient.

The patient is placed in the lithotomy position, with legs well separated, and draped in the usual manner. The operator seats himself comfortably before the patient.

A Baklite speculum is inserted into the vagina to expose the cervix. The vagina and cervix are freed of all discharge by swabbing with hydrogen peroxide and wiped dry.

XUM

Crystals of cocaine are placed in the cervical canal and allowed to dissolve, or an applicator saturated with butyn solution of 15 per cent is introduced into the cervical canal and allowed to remain for five minutes.

The machine may be either a radio knife or an electro-surgical tissue cutting apparatus. The inactive, wet metal electrode, about six by six inches in size, connected to the cutting machine through a conducting wire, is placed on the abdomen and held firmly in place by means of a strap or sand bag. The patient is directed to make firm compression with both hands, so as to distract her attention.

The cutting current is turned on until a stage is reached which will provide sufficient current for the operation. The tip of the instrument, which consists of a tungsten wire two inches long attached to a silicon rod insulated by rubber, is placed about one-eighth inch from the external os and the foot switch closed, thereby turning on the current. With the current still on, the silicon portion of the instrument is immediately passed into the cervical canal up to the internal os, and with a rotary motion the mucous membrane is coned out. The foot switch is released and the instrument withdrawn. The mucous membrane with its contained cervical glands will be found adhering to the tungsten wire and the silicon tube, and a few drops of blood may appear in the cervical canal. The instrument may be re-introduced and more tissue removed by repeating the previous steps if the operator so desires.

An applicator saturated with a 2 per cent mercurochrome solution is now placed in the cervical canal and left *in situ* for several minutes. A light packing of the vagina with gauze moistened with 1 per cent mercurochrome solution is all that is needed to control the slight amount of bleeding which might occur. The danger of subsequent bleeding is practically nil.

The instructions and after-care of a patient having a conization are the same as those following a cauterization.

Advantages

This relatively simple office procedure for the treatment of endocervicitis has given my patients a very satisfactory result. The patient suffers no pain or discomfort, nor does it discourage her with long drawnout treatments.

The symptoms are relieved because the mucous membrane with its contained glands is removed. No muscular tissue is removed, the cervix remaining functionally normal, and future parturition is not interfered with mechanically.

The procedure may be repeated as often as is deemed advisable to accomplish its object.

Conization can be used for removing tissue for microscopic examination particularly in cases where dilatation and trauma are inadvisable.

Cauterization or conization is not recommended as a cure-all for any type of gynecological disorder. To insure success, all pathology extraneous to the cervix must be carefully looked for and treated.

In conclusion, cauterization and conization are offered as an additional link in the chain of progressive methods to relieve the symptoms of chronic endocervicitis with the least discomfort to the patient.

1309 *Rhode Island Avenue, Northwest.*

A REVIEW OF THE PRESENT DAY THERAPY OF ALIMENTARY TOXICOSIS.*

SAMUEL H. RIVERS, M. D., Calvin, Va.

Alimentary toxicosis in infancy is a picture of violent purging, vomiting, rather extreme shock, weak pulse, paleness, rather marked dehydration, as evidenced by inelastic skin, and usually acidosis.

There have been much work and scientific investigation as to the etiological factors responsible for this serious and rather frequent infantile disease within the last few years, but no definite and specific cause has been established as yet. Dodd recently reported the finding of an increased amount of guanidine in the blood serum of children suffering from this disease and reported successful therapy with calcium. Marriot,[1] in his book on Infant Nutrition, stresses the importance of abnormal bacterial growth in the upper gastro-intestinal tract as a causative factor. He says that overfeeding and the feeding of improper articles of food contribute to the growth of these bacteria besides having an irritant action to the gastro-intestinal tract. He states that irritant foods also seem to cause an increased flow of alkaline mucus which decreases the acidity of the gastro-intestinal secretions and thus creates a condition more favorable for the survival of harmful bacteria. It has been estab-

*Read before the Wise County Medical Society at its meeting in Norton, Va., May 25, 1932.

lished that there exists a predominance of colon bacilli, in the upper gastro-intestinal tract during severe diarrheas. Although these may cause trouble in the upper intestinal tract, they do not cause trouble in their natural habitat, the lower bowel. It seems that there might be an actual invasion of the body by the colon bacilli as well as absorption of their toxic products. It has been shown in the animal that when the contents of the duodenum are kept alkaline, colon bacilli can be demonstrated in the thoracic duct. Plantega has shown that filtrates from broth cultures of colon bacilli, when given in minute quantities by mouth, cause vomiting and purging but do not cause any symptoms when introduced from the lower bowel route. There is some evidence in the literature to give histamine as the probable offending protogenous material.

Speaking of the mortality of this disease, until recently it has been appalling and something of which to be ashamed. It seems that until the last few years an artificially fed baby had little chance of survival. Until recent years most any species of young animals had a better opportunity of survival than the young of the human species. Within the last ten years complete failure in artificial feeding has been converted to a point approaching complete success. Elaborate mathematical formulae and wet nurses have been supplanted by a more successful system.

The death rate in foundling and infant asylums was astounding and almost unbelievable in the eighteenth century. Durand,[2] in an excellent article in the *Journal of the American Medical Association*, Vol. 99, No. 4, July 23, 1932, states, "Until recently, the mortality of artificially fed babies has been appalling. Marriman, in the early part of the nineteenth century, said that hand-feeding proved fatal in seven out of eight of these miserable sufferers. The death rate in the foundling and infant asylum was particularly terrible. In Rouen, from 1763 to 1765, only three of 132 hand-fed infants survived; in Dublin, of 10,000 admissions from 1775 to 1796, less than 1 per cent lived; the Paris Foundling Hospital furnished a mortality of 85 per cent of 32,000 admitted; London institutions, up to 1767, when Parliament required infants to be taken to foster parents in the country, reported 2,690 deaths in 2,800 annual admissions. And until the last decade these distressing statistics were not greatly improved on in the orphanage."

The success in the treatment of alimentary toxicosis has improved as artificial feeding has improved. Successful feeding is probably the most important part of the prevention. Severe diarrheas rarely occur in breast-fed babies. The prophylaxis probably can be summarized by the statement, "To prevent severe diarrheas, keep the babies healthy." This statement takes in the proper nutrition, keeping in mind the ratio of 1, 2, 3, in feeding proteins, fats and carbohydrates. Pediatricians are also feeding babies earlier than formerly, with still better results. One author states that more rickets develops from one pint of milk than one liter of milk. Man cannot live from bread alone and neither can babies, from milk alone. But milk is one of the basic foods of the diet, and will probably remain so for a long time, but the point that perhaps should be noted particularly, and guarded against, is the feeding of milk alone without beginning the feeding of other articles of food sufficiently early so the infant will not suffer from the lack of vitamines and perhaps develop a nutritional anemia. Egg yolk, cereals, fruit pulp, meat, fish, vegetable pulp, etc., are being given earlier it seems. The German school says that the intake of milk should never exceed .5 liter, and some of our most noted pediatricians are not surpassing this quantity. All babies should have viosterol or Haliver oil with viosterol as a preventive of rickets. Many children cannot take cod liver oil, and Haliver oil with viosterol is a great discovery for these children and for general use in the summer season. Water should be encouraged during the summer season and the intake should perhaps be ample. Except during periods of excessive heat Durand says the amount which probably should be taken should be about 1/5 of the infant's weight during the early weeks, 1/7 at six months, and 1/8 at one year. If the water supply is kept around these limits, he says less vomiting occurs, the bottle is more readily emptied, the bed and clothing are not so constantly soaked, the insulation against changes in temperature is better, and the skin is less irritated.

Keeping the baby cool, giving him plenty of fresh air and protecting his delicate nervous system is of great benefit in the prophylaxis of diarrheas. He should always be in a calm, quiet and uncrowded atmosphere. The pro-

tection of the baby from too many admiring friends and handling is becoming more important in the eyes of many of our pediatricians. A child with an over-wrought nervous system is far more apt to develop a diarrhea than one with a quiet and proper environment. The boiling of the milk is a very important step in prevention.

Many cases of alimentary toxicosis are first seen and perhaps treated entirely by general physicians, and the percentage of these cases that are treated by the practitioner is perhaps high. Many isolated sections cannot have a pediatrician and depend entirely upon the family physician. It therefore behooves the conscientious physician to keep himself alert as to the improvement in the therapy of this disease and to almost rival the expert in the treatment. Should he not do this, the mortality of his patients with this condition will be nearer 100 per cent than 50 per cent. The fact of the matter is, should he not be prepared to administer to the infant's needs according to the improved methods of late years, his little patient will probably not survive, and he may not anyway if treated in the most expert manner. Every effort should be made and every straw turned to save the lives of these little fellows. They have their lives to live, and, if they survive an emergency like this, they are not in any way handicapped, but the man who is suffering with cerebral softening cannot hope to be much better.

Marriot divides the treatment into the following general principles, which are applicable to all diarrheas:

1. A recognition and treatment of any existing infection.
2. Rest of the gastro-intestinal tract.
3. Food adapted to the limited capacity of the intestinal tract.
4. Retention and maintenance of the fluid and mineral balance.
5. Blood transfusions in severe cases.

Marriot greatly stresses infections like pyelitis, otitis media and laryngopharyngeal infections. He says they should always be looked for and, if found, treated.

There should perhaps be a starvation period in any severe case of diarrhea. The intestinal tract is greatly irritated and the child's digestive function is almost *nil*. Any contents of the gastro-intestinal tract is probably a culture media for harmful bacteria. Consequently, the food must be adapted to the digestive capacity or you will only be adding oil to the fire. A preparation, which Marriot recommends and which I have found very useful, is buffered lactic acid solution. The composition is as follows:

Sodium Hydroxide, 10 per cent....	20 c.c.
Lactic Acid Solution, U. S. P.....	15 c.c.
Water *ad* .....1000 c.c.	

This can be sweetened with saccharin and given *ad lib*. It has a taste similar to lemonade. There seems to be a rather quick improvement in the general condition of the patient after taking and retaining this, and a decrease in the number of bowel movements. Marriot has noted that B. coli will disappear from the stomach contents after feeding this solution. I find it will often be retained when nothing else will. Occasionally there can be added 5 per cent red label karo syrup without harm.

After a sufficient starvation period, when the stools have improved as well as the general condition, 1 part protein milk may be added to 10 parts buffered lactic acid solution, and, if no untoward symptoms develop, increase the feeding each day by half ounce. Durand recommends giving 10 c.c. protein milk with 6 per cent carbohydrate added, and the feeding increased 10 c.c. each day until on the eighth day the nutritional needs are being taken.

Probably the most important step in treatment of such a condition is to maintain and supply the fluid and mineral needs. Ringer's, normal salt, or Hartman's solution can be given subcutaneously, intraperitoneally, intravenously, or, in some cases under one year, in the superior longitudinal sinus. The general physician should select the route with which he is most familiar, but fluids with perhaps 5 per cent glucose must be gotten into the body and kept there in quantity sufficient to maintain the turgor of the skin. In many cases small doses of adrenalin or other stimulant should be given to help the circulation and thus speed up the absorption of fluids. The route which will perhaps be used most by the general physician, of which I am one, is the peritoneal route and the subcutaneous route. Karelitz and Schick,[3] in a recent article in the *Journal of the American Medical Association*, gave an interesting paper in which they had treated fifty-four cases with the continuous venoclysis method with Ringer's and 5 per cent glucose. Soon after the fast, initial 100 to 250 c.c. were

given, the patients were given transfusions of 75 to 150 c.c. of citrated blood. After the initial fast infusion by means of gravity outfit with rectal drip bulb and thumb screw clamp the apparatus was regulated so as to give the child 15 to 40 c.c. per hour. The total fluid intake was calculated around two ounces per pound body weight in the twenty-four hour period. The mortality since this treatment has been instituted has dropped from 64 per cent in the last ten years to 12 per cent in this series of fifty-four cases in the same hospital.

Hartmann's solution is an excellent substitute for normal salt and Ringer's. It is used by Powers Marriot and others and highly recommended. It works well in the presence of an acidosis or alkalosis and can be diluted with twenty-five times its volume with freshly sterile distilled water. It can be given by any route that normal salt can be given and can be purchased in sterile ampoules and diluted just before being given. Glucose can also be readily given with this.

In those cases which run a high toxic temperature and you are far in the country without ice or electricity, a fairly efficient cooling apparatus can be made from a five gallon tank, an iron pipe or rubber hose closed at one end and perforated with fine holes, and two muslin or canvas-covered gables over the patient. The first gable fixture can be put about three feet above the patient, and the other gable six inches above this. The water drips on the upper covered gable just fast enough to evaporate before running off on to the bed, and the evaporation uses up heat from the compartment between the two gables, thus cooling the air. Cool air, being heavy, falls and envelops the patient, keeping the surrounding air cool. Sometimes this may be life-saving.

In desperate cases where the patient is far from the office and you cannot handily match the bloods and transfusion is urgently indicated, I see no reason why a small micro-transfusion, given into the subcutaneous tissue as often as necessary, would be contra-indicated when taken from one of the parents. I have given convalescent whole blood in 50 c.c. quantities on several occasions in this way. In the presence of a good circulation, I believe the results would be good. Small transfusions could be given daily in this way. The transfusion of whole blood, as alluded to above, were given in an epidemic of measles as a preventive measure, but I have never given it in other indications.

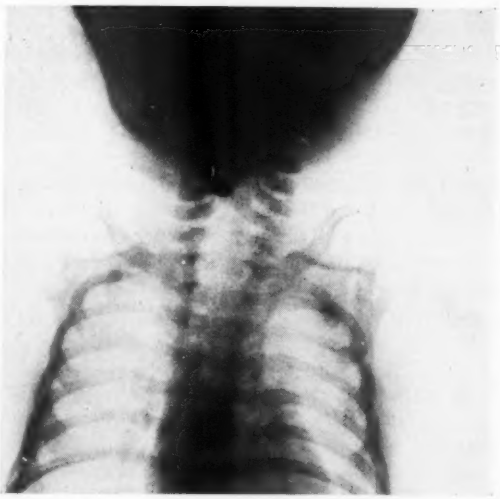
References

1. Marriot: Infant Nutrition.
2. Durand: Progress in the Nutrition of Infants. *Jour. Amer. Med. Asso.*, Vol. 99, No. 4.
3. Karelitz and Schick: Treatment of Alimentary Toxicosis, *J. A. M. A.*, Vol. 99, No. 5.

OPEN SAFETY PIN IN ESOPHAGUS OF MONTH OLD BABY: CASE REPORT.

E. G. GILL, M. D., Roanoke, Va.

Patient, J. W. V., age 1 month, was referred to us on January 29, 1932, by Drs. George S. Hurt and J. M. Bishop. The parents gave a history of the child having difficulty in swallowing and crying as if in severe pain for three days. For the past twelve hours, there had been a peculiar noise made on inspiration. There was no history of aspiration or swallowing of a foreign body. The physicians in the case felt that they might be dealing with an enlarged thymus gland, but the X-ray revealed an open safety pin in the upper esophagus. At endoscopy, the point of the pin was found embedded in the under surface of the left arytenoid cartilage. The keeper of the pin was grasped and the point was disengaged, and the entire pin was removed without any difficulty. No anesthesia was used, neither local or general.



X-ray photograph showing open safety pin in esophagus of month old baby.

This case is reported as it is of interest due to the absence of a history of foreign body

aspiration. It is also interesting as to how a baby one month old could get any object in its mouth. This case clearly demonstrates the importance of X-ray plates where there is difficulty in swallowing or breathing.

Gill Memorial Eye, Ear and Throat Hospital.

Woman's Auxiliary, to the Medical Society of Va.

President—Mrs. William Lett Harris, 1112 Matoaka St., Norfolk.
President-Elect—Mrs. Joseph Bear, 3012 Monument Ave, Richmond.
Recording Secretary—Mrs. Fletcher J. Wright, 49 S. Market St., Petersburg.
Corresponding Secretary—Mrs. Charles A. Saunders, 1000 Gates Ave., Norfolk.
Treasurer—Mrs. Reuben F. Simms, 2034 Park Ave, Richmond.

Auxiliary to the Richmond Academy of Medicine.

It was with deepest regret the Auxiliary accepted the resignation of Mrs Lee E. Sutton as its president, at the January meeting. Mrs. Sutton had done excellent work during the past year and the members have a very real appreciation of her unsparing spending of her time, strength and splendid talents in behalf of the organization.

While regretting the loss of Mrs. Sutton as president, the Auxiliary has been particularly fortunate in securing the services of Mrs. James B. Dalton who was serving as vice-president with Mrs. Sutton. Mrs. Dalton is a woman of charm and splendid executive ability and we feel sure she will wear the mantle which has fallen upon her slender shoulders with credit to herself and honor to the organization she represents.

Auxiliary to Norfolk County Medical Society.

At an executive board meeting of this Auxiliary, in January, it was planned to give a Public Relations Tea, inviting the Norfolk teachers, the members of the Home and School Leagues, and members of the Woman's Club. Dr. B. B. Bagby, State Director of Child Welfare, will be the speaker on this occasion.

The members of the Auxiliary will also assist in cataloging the Medical Library.

There will be a meeting of the whole Auxiliary early in February.

National News.

Mrs. Milton P. Overholser, National Chairman of Press and Publicity, sent her news letter for December-January with the following verses by Angela Morgan, as an inspiration for the coming year:

"Work! Thank God for the pride of it,
For the beautiful, conquering tide of it,
Sweeping the life in its furious flood,
Thrilling the arteries, cleansing the blood,
Mastering stupor and dull despair,
Moving the dreamer to do and dare.
Oh, what is so good as the urge of it,
And what is so glad as the surge of it,
And what is so strong as the summons deep,
Rousing the torpid soul from sleep?
Thank God for a world where none may shirk—
Thank God for the splendor of needed work!"

Greetings for 1933

The old year is ended and the bright New Year full of possibilities for success and happiness is before us. And Oh! such opportunities for Resolutions! Not the proverbial kind, forgotten so soon, but for growth, consolidation and coordination, thus stabilizing all phases of our activities, warm friendships mellowing the memories of past years and bringing our own year to such a close as will find us more firmly established than ever in the hearts and lives of those we serve.

The poet has sung—"Oh for a day in June" and what can be lovelier than Wisconsin in June! Already our thoughts are turning Conventionward. This means Reports, and it should not be too early NOW to think of what those reports will contain. In many cities, High School students are allowed to run the various parts of city government for a day. It would provide an awakening experience if some of our members could be National officers, at least for a day. Each state has its own definite interests and problems, and each officer, especially Standing Committee Chairmen, earnestly tries to sympathetically understand and assist in their development.

In the last News Letter, Mrs. Freeman's splendid article emphasized the importance and value of *Hygeia*. Today let us turn to the importance of Public Relations. Every newspaper, as well as medical journals, has given headlines to the reports of the Committee on "The Cost of Medical Care." Who more than the Auxiliaries should carefully read, discuss and understand both the majority and minority reports, and be thoroughly familiar with their arguments and claims.

In the *Pennsylvania Medical Journal* we read

from the physicians themselves "A gradual extension of our Public Relations Activity is the only sane solution for meeting those who interfere with the evolutional progress of Medical Science." This well expresses the spirit of the Recommendations from the Committee on Public Relations through its Chairman, Mrs. A. Haines Lippincott, and her Committees which should be, and are, reaching to the individual members, for from the Auxiliary columns of the medical journals of many states, we find it has become a vital note in our education, each a committee of one carrying with them into other organizations the facts in reference to scientific medicine that should be the common possession of every citizen.

Mrs. C. R. Phillips, in her report as retiring President of the Pennsylvania Auxiliary, emphasizes the recognized importance of the place for Public Health and Educational Subjects in their past years programs, and that these same subjects have been given to other clubs and organizations by the Public Relations Chairman, thus accomplishing a fine piece of work.

An enthusiastic letter from Mrs. B. Franklin Blotz, State President of Colorada, states she had just motored to Denver, a distance of 190 miles to attend the meeting of the State Public Relations Committee and a splendid outline for the year has been prepared.

We have asked this might be considered a State Year. Assurances have come from so many of the states, too numerous to mention for fear we might omit one, that again we urge each group of State Officers to cooperate to the fullest with everyone of the National Chairmen. Your success is our success. As you grow our influence multiplies and enables us all to accomplish the things we seem to have been born to do.

Instinctively we all know what we would like to accomplish in the coming year.

Let us do it with all our might!

Faithfully yours.

MRS. JAMES F. PERCY,
President, Woman's Auxiliary, A. M. A.

The following is a short sketch of the new National President:

Mrs. James F. Percy was born in Nebraska, went with her parents to Southern California when five years of age, and received her education in the public schools of Los Angeles. Her early activities were concerned with the development of oil interests in which her father was engaged. Part of this experience required familiarizing herself with the legal side of business practice, she lived thus in a business and legal atmosphere. She became an active worker in Women's Organizations, especially those devoted to music and the drama. In both of these pursuits she has maintained an earnest and enthusiastic interest until the present day.

Since her marriage to Dr. Percy in 1925 she entered with equal devotion into the exacting demands that usually fall to the lot of the physician's wife. Through friendship and admiration for Mrs. John O. McReynolds, of Dallas, Texas, she was attracted to the Woman's Auxiliary of the American Medical Association. Following the A. M. A. Meeting at Dallas, she resolved to try to interest the Los Angeles County Medical Association in the formation of a County Auxiliary. This resulted in her being requested to assume Chairmanship of an Organization Committee. Her first efforts met with enthusiastic support. She was elected its first President and at the end of the first year there was an enrolled membership of 474. In May, 1930, she was elected State President and at the Detroit meeting of the Auxiliary to the A. M. A. was made fourth Vice-President. This was followed at Philadelphia by the second Vice-Presidency and at New Orleans she was made first Vice-President. Because of her admiration and friendship for our late President, Mrs. Walter Jackson Freeman, and in loyalty to the Auxiliary this office was reluctantly accepted.

Mrs. Percy has a constructive love for organization work which she keenly enjoys.

Truth About Medicine

In addition to the articles enumerated in our letter of November 26th, the following have been accepted:

Maltine Company

Maltine with Mineral Oil and Cascara Sagrada.

New and Non-official Remedies

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association, for inclusion in New and Non-official Remedies:

Nostal.—Isopropyl bromallyl barbituric acid. It differs from barbital (diethyl barbituric acid), in that both of the ethyl groups of the former have been replaced, one by an isopropyl group and the other by a substituted brominated allyl group. The actions and uses of Nostal are essentially similar to those of barbital, but it is more active than barbital and is used in correspondingly smaller doses. It is marketed in the form of tablets 0.1 Gm. (1½ grains). Riedel-de Haen, Inc., New York.

XUM

Abbott's A-B-D Malt Extract with Cod Liver Oil and Viosterol 5 D.—Malt Extract, 57 per cent; cod liver oil with sufficient viosterol to adjust the antirachitic potency to 5 D, 30 per cent by volume; glycerin, 10 per cent; alcohol, 3 per cent. The finished mixture is assayed for vitamin B_1 (F) potency by a modification of the method of Sherman and Spohn and is required to contain not less than 60 units per fluidounce; it is assayed for vitamin B_2 (G) by the method of Sherman modified by the diet proposed by Munsell and is required to contain not less than 60 units per fluidounce. The cod liver oil is assayed by the method of the U. S. P. X for vitamin A and is required to contain not less than 500 units per gram; it is adjusted by addition of viosterol to contain not less than 66.65 vitamin D units (Steenbock) per gram when assayed by the method of the Wisconsin Alumni Research Foundation. The actions and uses are the same as those for cod liver oil. Abbott Laboratories, North Chicago, Ill. (Jour. A. M. A., December 3, 1932, p. 1945).

Neocinchophen—Lederle.—A brand of neocinchophen—N. N. R. It is marketed in the form of tablets 5 grains. Lederle Laboratories, Inc., Pearl River, N. Y. (Jour. A. M. A., December 31, 1932, p. 2265).

Foods

The following products have been accepted by the Committee on Foods of the American Medical Association for inclusion in Accepted Foods:

Mellin's Food Biscuits (Mellin's Food Company of North America, Boston).—Baked biscuits prepared from wheat flour, Mellin's Food (essentially maltose, dextrins, cereal protein and minerals and potassium bicarbonate), cane sugar, oleomargarine and sodium bicarbonate. Biscuits intended for children passing from an infant's diet to more substantial nutriment and for invalids.

Merck's Banana Powder (Northjohn Corporation, Lincoln, N. J., manufacturer; Merck & Co., Inc., Rahway, N. J., distributor).—Spray dried ripe bananas retaining enzymes and vitamins in accordance with the following approximations: vitamins A (100 per cent), B (100 per cent), C (20 per cent) and G (100 per cent). It is intended for table use of bananas, the preparation of banana milk drinks, as a carbohydrate supplement for infant and invalid feeding, and as an adjunct in special diets.

Squibb Chocolate Flavored Vitavose (E. R. Squibb & Sons, New York).—A powdered mixture of sucrose, Vitavose (extract of malted wheat germ and U. S. P. malt), cocoa, skim milk and lactose; vanilla flavored; contains vitamins B and G. It is claimed to be intended especially for the carbohydrate, food iron and vitamins B and G supplement of milk. (Jour. A. M. A., December 17, 1932, p. 2113).

Mellin's Food (Mellin's Food Company of North America, Boston).—A dried extract produced by an infusion of wheat flour, wheat bran and malted barley admixed with potassium bicarbonate; essentially maltose, dextrins, proteins and mineral salts for the modification of milk for infants and invalids.

Propaganda for Reform

The Zifferblatt Hay Fever Treatment.—In May, a Philadelphia newspaper published an article with the headlines: "Hay Fever Stayed by Discovery Here. New Inhalant Immunizing Patient to Ravages of Disease Announced." The article opened with the statement that Philadelphia, long noted as a center of medical science, had added another triumph to her achievements by the discovery by one of her research workers, Dr. Arnold H. Zifferblatt, of "a 100 per cent successful treatment for hay and grass fever." Summed up, the situation seems to be: that Dr. Zifferblatt and his associates claim to have developed a treatment for hay fever that will give permanent relief for the season; (2) that no information regarding this treatment has been published in medical literature, but the widest publicity has been given it through the daily press; (3) that the composition of the drugs used and the methods of administering them are admittedly secret; (4) that at least a proportion of the public is being charged for this secret treatment, which is admittedly in the experimental stage. (Jour. A. M. A.,

Mouth Washes and Gargles.—The Council on Dental Therapeutics of the American Dental Association, founded and organized after the manner of the Council on Pharmacy and Chemistry of the American Medical Association, has begun to secure order in the complex and difficult field in which it works. Among the most recent of its publications is a consideration of the subject of mouth washes. The Council on Dental Therapeutics feels that the usual run of mouth washes are not medicines in any sense of the word and really serve no more intrinsic purpose than as an aid in the mouth toilet in the removal of loose food and debris. While the Council does not specifically attack the claims made for any widely advertised mouth wash, it does point out that the claim that a mouth wash removes mucin films is too remote to warrant serious consideration, which is, of course, a direct thrust at the claims made for such products as Mu-Sol-Dent. It continues with the asssertion that the same statement applies to neutralization of mouth acidity; and to halitosis, which is a specific indictment of the advertised claims for such preparations as Listerine and Pepsodent. Before investing money in any of these toilet articles, therefore, the medical profession, the dental profession and the public will do well to realize the limitations of the products so far as concerns their value for the prevention and treatment of disease. (Jour. A. M. A., July 23, 1932, p. 310.)

The Scott Tissue Questionnaire.—The results of an investigation by the A. M. A. Chemical Laboratory and the Bureau of Investigation of the charges made by the Scott Paper Company that two out of three toilet papers of 660 brands tested had been found unsafe and unfit to use, proved conclusively that there was no basis for any such charge. Now the medical profession is being circularized by one Henry Legler, who writes on stationery that carries no name but does have the address, Room 1018, at 420 Lexington Avenue, New York City (which appears to be a storage room for the Scott Paper Company's advertising agency). In the combined letter and questionnaire that Legler sends to physicians, he states that he is "making a study of inferior toilet tissues and their relation to health for the Scott Paper Company" and inquires whether in their experience they have found that injury to mucous membranes may be caused by inferior toilet paper, what characteristics in the paper itself would be responsible for these troubles, and what qualities they consider most desirable in toilet tissue. Few physicians indeed have had experience enabling them to express a scientific opinion on either of the first two questions; the third question, of course, any physician could answer; so could any intelligent layman. (Jour. A. M. A., July 30, 1932, p. 393.)

Koremlu. The Chicago *Tribune*, of Sunday, July 17, 1932, issued the statement that a voluntary petition in bankruptcy was filed by Koremlu, Inc., depilatories, of 11 West 42nd Street, listing liabilities of

$2,448,745 and assets at $2.93. There seems to be accumulating evidence, however, that the individuals, or at least some of the individuals, who have been connected with the exploitation of Koremlu as a depilatory have decided that there is too much money to be made in the depilatory business to abandon it, even if dozens of women have been injured by their old product. There is now appearing on the market an alleged depilatory called "Croxon," which emanates from the same office as that of Koremlu. Croxon, Inc., was brought into existence January 29th, this year, and the president of the concern is said to be one A. W. Lublin.

According to an advertisement, Croxon "will permanently destroy both hair and roots in three to six months." Even though we are not yet in a position to publish the complete composition of Croxon, it is our opinion that Croxon will not destroy both hair and roots, either in three months or three years. (Jour. A. M. A., July 30, 1932, p. 407.)

"Ray-X Water—Liquid Sunshine."—Quacks, faddists and others are familiar with the fact that if people could be persuaded to drink more water, their health would be improved and many minor indispositions ameliorated or removed, and capitalize it by putting on the market drinking water that is alleged to have been subjected to some mysterious hocus-pocus that has endowed it with health-giving properties. One of the latest "patent medicines" of this type is called "Ray-X Water—Liquid Sunshine." It is put out by the Ray-X Water Corporation, 333 Twentieth St., Toledo, Ohio. The Ray-X Water Corporation is at the same address and has the same telephone number as an outfit known as the Blankmeyer Radionic Corporation, which puts out a fantastic piece of electro-medical hokum called the "Radiatoximeter." This device is described as the "New Super-Radionic Instrument" that will locate and treat disease without asking any questions and is positive in its findings! The Ray-X Water Corporation has for its president one A. R. Hartzog, an unlicensed chiropractor who has been in the courts at various times for violation of the medical practice act of the State, and for its vice-president and secretary, E. E. Blankmeyer. Mr. Blankmeyer is reported to be also vice-president and secretary of the Blankmeyer Radionic Corporation, a concern which has claimed to have reduced the diagnosis and treatment of disease to a mechanical certainty. The only information given in the printed matter regarding the composition of Ray-X is: "Ray-X is 100 per cent Pure distilled water subjected to a very powerful series of RAY treatments. These treatments, besides making it absolutely free from all impurities, impregnate it with certain properties and retains them in solution." This would indicate a very pretty tie-up. A man suffering from some chronic condition is persuaded through a newspaper advertisement to have his condition diagnosed by a preposterous piece of mechanical quackery known as the Radiatoximeter. He is then passed on to the exploiters of Ray-X Water, who share the offices of the Radiatoximeter outfit. (Jour. A. M. A., August 6, 1932, p. 492.)

Vitamin and Mineral Content of Dried Vegetables.—The Committee on Foods reports that to be acceptable, dried vegetables, either powdered or in other form, shall retain in highest degree possible with effective manufacturing methods, the vitamin and mineral content of the raw vegetables. Products with materially reduced vitamin or mineral content may be accepted, provided they are accompanied by labels and advertising prominently and appropriately declaring the vitamin or mineral content with respect to that of the natural vegetable used. (Jour. A. M. A., August 13, 1932, p. 562.)

Book Announcements

Clinical Gynecology. By C. JEFF MILLER, M. D., Professor of Gynecology, Tulane University School of Medicine; Chief of the Department of Gynecology of Touro Infirmary; Senior Visiting Surgeon, Charity Hospital, New Orleans. Cloth. 560 pp. C. V. Mosby Co. Price, $10.00.

This book is a companion volume to the author's "An Introduction to Gynecology." It deals exclusively with therapeutics, though diagnosis is also considered in those diseases in which an early and prompt recognition of the condition is at least as important as its treatment.

Several points stand out clearly and forcefully in this work. It is apparent on every page that the author writes from a rich experience. He is one of the outstanding gynecologists in America and a born teacher. The book is encyclopedic in its discussion of the treatment of gynecologic diseases and it is contained in 560 pages, including the index. A clear and captivating style makes it easy reading. He has the ability of giving an extended and complete picture in a few words without any sacrifice to brevity. As an example, the chapter on Endocrine Therapy gives a complete working exposition of the subject and is contained in thirteen pages. A very attractive feature is the Bibliography at the end of each chapter. It is not padded and contains references that are most worth while if further investigation is desired.

It is divided into three parts: PART I, Gynecological Diseases and their Treatment; PART II, Therapeutic Measures in Gynecologic Disease; PART III, Operative Gynecology.

It is particularly adapted to students but makes also an excellent desk book for the gynecologist and practitioner.

CHARLES R. ROBINS, M. D.

Synopsis of Gynecology. By HARRY STURGEON CROSSEN, M. D., F. A. C. S., Professor of Clinical Gynecology, Washington University Medical School, Gynecologist in Chief to the Barnes Hospital and the Washington University Dispensary, etc., and ROBERT JAMES CROSSEN, M. D., Instructor in Clinical Gynecology and Obstetrics, Washington University School of Medicine, etc.,

227 pp., 110 illustrations. C. V. Mosby Co. Price, $2.75.

This book is based on the textbook, Diseases of Women, by the same authors. It takes cognizance of the fact that the extension of medicine into various specialties and the development of all of the branches of medicine has produced such a mass of literature as to make it impossible for the medical student. This is for two reasons, first that there is not sufficient time to read all the full textbooks, and second, the cost is prohibitive. For the student who expects to specialize in a particular branch, detailed study of that branch is, of course, necessary, but all students should have a practical familiarity with the whole subject of medicine. Books of this character make this possible and attention should be paid to these difficulties. This book marks a big step in advance in meeting present conditions. It is of a convenient size to carry in the pocket, and therefore permits ready reference on the wards when the case is being studied. It covers the whole subject put in an abbreviated way. It is illustrated by a number of line drawings that clarify the text and are readily understandable.

It is to be hoped that this is only one of many books that will be furnished students of medicine with the same objects in view.

CHARLES R. ROBINS, M. D.

Annual Report of the Surgeon General of the Public Health Service of the United States. For the Fiscal Year 1932. United States Government Printing Office. Washington. 1932. Octavo of 199-vi pages. Cloth. For sale by the Superintendent of Documents, Washington, D. C. Price, $1.00.

This report states that the general health of the people of the United States as reflected by mortality rates has been maintained at a very high level during the last two and one-half years of unfavorable economic conditions.

A new low record was established for tuberculosis, reports from forty-five States giving an aggregate tuberculosis death rate of 66.3 per 100,000 population, as compared with 68.8 per 100,000 population in 1930. In 1931 there was a sudden drop in the incidence of smallpox as compared with preceding years. The typhoid fever case rate was 21.4 per 100,000 and the death rate 4.6. During the first six months of 1932 the incidence of typhoid fever increased, 5,900 cases being reported, as compared with 4,500 cases during the corresponding period of 1931 and 5,600 cases in 1930. The pellagra death rate, based on reports from forty-six States, was 6.2 per 100,000 in 1929, 5.9 in 1930, and 4.8 in 1931. In the year 1930 the lowest diphtheria death rate (4.9 per 100,000) was registered. In 1931 the rate rose to 5.0 per 100,000. Neither cholera nor yellow fever appeared in the United States during the year. No case of plague was reported in continental United States during 1931 or the first six months of 1932.

The Sex Technique in Marriage. By ISABEL EMSLIE HUTTON, M. D., London, England. Physician to the British Hospital for Functional, Mental and Nervous Diseases; Physician-in-Charge at the Ellen Terry Home at Reigate in Surrey. Foreword by IRA S. WILE, M. D., Former Commissioner of Education, New York City; Associate in Pediatrics, Mt. Sinai Hospital, etc. Emerson Books, Inc. New York 1932. 160 pages. With illustrations. Cloth. Price, $2.00.

A simple and lucid treatise which can be recommended for those contemplating marriage, especially women. Contraception is discussed only in a general way.

R. J. MAIN.

Office Surgery. By FENWICK BEEKMAN, M. D., Visiting Surgeon, Bellevue Hospital; Visiting Surgeon, Hospital for the Ruptured and Crippled, etc. Everyday Practice Series. Edited by Harlow Brooks, M. D. J. B. Lippincott Company. Philadelphia and London. 1932. Octavo of 402 pages. With 94 illustrations. Leather. Price, $5.00.

Cancer and Sarcoma One; Identical in Cytology; Cell Division. By FRANK A. STAHL, M. D. Rush, 1887. One time Volantar, Frauen Klinik, Munich; Demonstrator of Obstetrics, Rush Medical College, Chicago, Ill. Pamphlet of 60 pages. Illustrated.

Infants and Children. Their Feeding and Growth. By FREDERIC H. BARTLETT, M. D., Director of the Department of Pediatrics, Fifth Avenue Hospital, New York City. Farrar & Rinehart, Inc. New York. 1932. 424 pages, complete index. Price $1.50 net.

Radiologic Maxims. By HAROLD SWANBERG, B. Sc., M. D., F. A. C. P., Editor, The Radiological Review; Radiologist, St. Mary's Hospital and Blessing Hospital, Quincy, Ill., etc., With a Foreword by HENRY SCHMITZ, A. M., M. D., LL. D., F. A. C. R., F. A. C. S., Professor of Gynecology and Head of the Department, Loyola University School of Medicine, etc. Radiological Review Publishing Company. Quincy, Illinois. 1932. 12mo. of 127 pages. Cloth. Price, $1.50.

Methods and Problems of Medical Education. Twenty-first Series. The Rockefeller Foundation. New York. 1932. Pamphlet of 226 pages. illustrated.

Proceedings of the Twenty-sixth Annual Convention of the Association of Life Insurance Presidents. Held in The Waldorf-Astoria. New York. December 8 and 9, 1932. Octavo of 280 pages. Paper.

Virginia Medical Monthly

FOUNDED BY LANDON B. EDWARDS, M. D., APRIL, 1874
OWNED BY MEDICAL SOCIETY OF VIRGINIA SINCE NOVEMBER, 1919

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All correspondence regarding editorial matters, articles, advertisements, subscription rates, etc., should be addressed to the Monthly, 1200 East Clay Street, Richmond, Va.

All advertisements are received subject to the approval of the Council on Pharmacy and Chemistry of the American Medical Association.

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VOLUME 59 FEBRUARY, 1933 No. 11

Editorial

Intrahepatic Jaundice.[1]

For years clinical medicine has recognized the frequency and importance of diseases of the liver. In many of the patients afflicted with digestive disturbances the liver plays a part. In many of the patients with the history of focal or systemic infections, the liver, its bile system or gall-bladder, plays a part. In many patients with a life-long history of obesity and excessive food consumption, the liver plays a part. In many patients with history of gall-bladder operation, the liver and bile radicals play a part. In the rare patients, in more recent years it is recognized, the liver plays a serious part from the over use of cincophen and other drugs.

Following infections like syphilis and more acute infections like streptococcic-sore-throat, the liver may be the site of complications of a major degree bringing to the fore liver symptoms easily recognized, but following in the wake of the above group of disease conditions there are signs of liver damage and liver pathology of a far less characteristic and spectacular nature not so easily recognized and yet of significance in the matter of health and well-being.

Snell[1] has recently directed attention to this subject observing that essential pathologic changes in the intrahepatic types of jaundice are quite the same regardless of what the etiologic factors may have been. He also notes that liver damage occurs and may proceed to degenerative changes. While in some instances healing may and does occur, chronic hepatitis results not infrequently. There may be extensive parenchymatous degeneration. Acute or subacute yellow atrophy may result. There may be in a small group processes of destruction and regeneration at work simultaneously: putting on the form of portal cirrhosis but with more rapid progress. Such patients have been said to have a sort of toxic cirrhosis. Then following primary lesions, the liver may be inherent—either healing, chronic progressive hepatitis, toxic cirrhosis or atrophy.

From the standpoint of jaundice in such cases, intrahepatic jaundice may be grouped as (1) infectious or toxic jaundice, (2) spirochetal jaundice, (3) toxic jaundice, due to drugs or poisons, such as cincophen, arsenic, chloroform, iodo-oxy-quinoline sulphonic acid (yatren), mushrooms, alcohol. etc., and (4) toxic jaundice from systemic diseases, such as exophthalmic goitre or toxemia of pregnancy. Besides, one must keep in view jaundice from portal cirrhosis and obstructive biliary states. Clinically the infections and toxic forms of jaundice are painless but are characterized by loss of appetite, some nausea or vomiting and general weakness and loss of weight. There may be general itching of the skin. The icterus varies. There may be an orange or saffron caste to the skin. Urine of these patients contains smaller quantities of bile in proportion to the values for bilirubin in the blood than is found in obstructive jaundice, says Snell. Stools are seldom acholic for any time. In

1. Clinical Varieties of Intrahepatic Jaundice. A. M. Snell. Proceedings of the Staff Meeting of the Mayo Clinic, December 21, 1932, page 731.

35 per cent of cases, however, acholic stools have been observed at times. In duodenal drainage bile is found and may be normal. Splenic enlargement in 25 per cent of such cases has been observed while the gall-bladder is rarely felt and the liver is often enlarged unless atrophy has ensued. Pruritis is inconstant and mild. In the laboratory one may find some help. Hypocholesteremia is one significant finding. The study of the galactose tolerance is another test of interest. The value of bilirubin in the blood streams are important. In more acute stages, high values for bilirubin are common. A rapid decline occurs as improvement takes place. In acute or subacute, yellow atrophy terminal or high values are not uncommon. In general, summarizes Snell, if bile passage is potent, very high values for serum bilirubin are strong evidences of the presence of a toxic or infectious hepatic lesion.

In recent years drugs such as cincophen or arsenic have been observed to produce such liver damage. Toxic jaundice may be associated with systemic disease in toxemia of pregnancy and certain forms of sepsis.

Standard Tests of Liver Function.[2]

For a number of years tests for liver function have been appearing in medical publications. Long recognized as a complex organ with varied functions, the effort to find a test of functions of the liver by laboratory methods have met with criticism but with some success. Now it is the general practice in laboratory investigation of suspected liver disease to employ several methods and to check one test against another test with clinical history and findings. In cases of liver or bile tract surgery, such methods of study of liver function, it has been desirable to evaluate the amount of liver damage by the employment of these tests. In instances when the tests disclosed poor function, dietary and remedial measures have been instituted and improved values in liver function have been obtained before operation. By this method, it has been possible, it is thought, to lower the mortality of such operations and to improve the chances of patients for a speedy recovery. Robertson, for instance, quoting Laird, Brugh and Wilkerson, states that "functional studies afford data that make the diagnosis of cholecystitis cases, the handling of these cases while in the hospital, and the prognosis of final results, more a matter of information and not so much a mere guess."

In view of these observations and in view of the widespread incidence of biliary tract infections of one sort and another, it would seem not out of place to call attention to the subject of the test of liver function and to cite the excellent articles, noted in footnote, as a reference for extended and careful reading by practitioners of medicine. It is probably true that many patients are getting symptoms from damaged and diseased liver without the cause of such symptoms being suspected and explained. One has only to recall the frequency of gall-bladder disease and biliary tract infection and the frequency of operations therefor to recognize the strong probabilities of such obscure etiologic factors in illness.

Our readers may find in the conclusion of Robertson's article a fair statement on the value of the several liver function tests. *Icterus Index* remains one of the most valued tests of liver function. It is simple; it is less time consuming and less prone to error than are some others. In its employment carrots should be eliminated from the diet as a possible source of error in performing the test.

The *van den Bergh test*, says Robertson, offers another test which rarely offers any advantage over the icterus index; and as the technic of the latter is more simple, it is more practical.

Bromsulphthalein gives a dye that may be employed in detection of liver damage through dye retention findings. The authors feel that the icterus index and this dye test are most frequent in agreement with the clinical picture. Besides this there is the *Galactose Tolerance Test.* In spite of negative estimations, these authors feel that this test has a definite place in the field of diagnosis. The long used *Urobilinogen*, except in few instances like malignancy, was not relied upon and was not given high place as a test of liver function. These authors describe their clinical work in a series of liver cases and reach their conclusions from these investigations. Discussion following this paper reinforces the importance of such tests in all cases of biliary tract surgery. Its perusal indicates keen interest aroused by the subject and emphasizes the plan in diagnostic investigation of liver cases that liver function tests have attained.

2. Functional Capacity of the Liver. W. E. Robertson, et als. J. A. M. A., December 17, 1932, page 2071.

Early Diagnosis of Brain Tumor.*

A paper that comes forward with the plea for the early diagnosis of brain tumors merits the wide interest such a problem presents. Practitioners may infrequently be called upon to consider such problems, but nevertheless in general practice such cases are more and more being discovered. It becomes urgent, therefore, for the general practitioner to look with keener discrimination into brain symptoms. Such symptoms are very common. Patients complain of headaches and vomiting and, maybe, blindness. Symptoms of dizziness, of apathy, of drowsiness demand discriminative investigation. One must remember that in brain tumor symptoms may become acute in slow growing tumors—headache, tenderness, and choked disk in about 60 to 80 per cent, nausea, vomiting, abducens nerve paralysis, convulsions, dizziness, bradycardia—are a few of the probable signs. Static or even cerebellar ataxia (third and fourth ventricle tumors) in noncerebellar tumors, paralysis of limbs (with large tumors not in motor area) and certain mental symptoms (in third ventricle tumors) as drowsiness, apathy, retardation of thought and movement, euphoria, certain roentgenographic findings and spinal fluid findings as slight increase in number of cells and increase in protein content are added points in the inquiry of diagnosis in brain tumors. The author presents in his paper illustrative cases citing the history and clinical findings with the purpose of emphasizing the various conditions and difficulties. While neurologists and neurosurgeons in the last stages may with alertness of diagnosis and experience pick out such cases, the practitioner will need to exert the keenest interest in his general reading in order to discern the significance of early symptoms of brain tumors. It must be acknowledged that the presence of headache, vomiting and choked disk are not prerequisite for diagnosis of brain tumor, although such a grouping usually is associated with this condition. Besides, generalized convulsions, jacksonian epilepsy, drowsiness, and stupor must arouse the most searching inquiry and early consultations.

*Osnato's paper. J. A. M. A., December 10, 1932, page 2012.

Department of Clinical Education
OF THE MEDICAL SOCIETY OF VIRGINIA

Foreword.

Spring will soon be here and, with it, we hope there will be the desire of many of our component societies to join with this Department in developing more fully the idea of postgraduate instruction. The advantages which will come as a result of this work are numerous, and, of these, the incentive to pursue our studies further is probably the most helpful.

A good library for reference and use would be of inestimable value to the Society in contributing to the cause for which this Department is striving. At the mid-winter meeting of this Department an effort will be made to work out the best way of making this library available to the profession throughout the State.

We are hoping to start a course on Pediatrics in the near future, as this seems the most popular subject desired by those who have taken Dr. Lapham's course, and there is probably no other course that would be as helpful to the general practitioner.

R. D. Bates, M. D.,
Chairman.

Sixteen Classes in Prenatal Care Finished.

The third circuit of five post-graduate classes conducted by Dr. Maxwell E. Lapham, of Philadelphia, full-time clinician of the Joint Committee on Prenatal and Postnatal Instruction, came to a close in the last week of January. These classes were located in Roanoke and adjacent cities. One new enrollment during the month, that of Dr. G. A. L. Kolmer, brought the membership for the circuit to a total of fifty-two. The attendance for the first part of the course was somewhat better than the records of previous circuits; and it remained creditable to the end, in spite of the disadvantages of the holiday intermission, rough weather, and the busyness of the season.

As in previous classes, every enrolled member was invited to give the Joint Committee the benefit of his frank opinion as to the value of the course and his suggestion for further improvement. The replies received at the time of writing have been unanimous, with a single exception, in stating that the course was worth the cost in time and money—twenty-three affirmative to one opposed; and that similar

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courses in other subjects would be welcomed—twenty-five affirmative to none opposed.

In its first nine months the Joint Committee has now completed sixteen classes with a total enrollment of 228. Of this number only six have been doubtful of the value of the work, and only six have indicated their lack of interest in future educational opportunities.

The fourth circuit of classes in and around Norfolk, as described below, and an intensive course of two weeks already arranged for Bedford in April, will end the year's work. The organization of additional study groups for the summer in the most distant sections of the State will be immediately undertaken.

Tidewater Classes Begin Strong.

Unanimous votes in approval of the courses in prenatal and postnatal care by the medical societies of Norfolk, Nansemond and Southampton Counties, and the application of members of the (colored) Norfolk-Portsmouth Medical, Dental and Pharmaceutical Society, have resulted in a more favorable beginning for the fourth circuit than in any previous groups of classes. Active committees on membership and clinical material and an advance enrollment of fifty-one are indications of the success that may be confidently expected in the new territory.

Details of the meetings of the fourth circuit ten days before the organization week are as follows:

SUFFOLK: The class meets on Mondays, beginning January 30th, at 3:00 P. M., probably in the Public Health rooms. Local committee in charge of membership and clinical material: *Chairman*, Dr. E. C. Joyner, Drs. Rea Parker, J. L. Rawls. *Enrollments:* Drs. L. L. Eley, W. C. Gibson, G. G. Holland, H. H. Hunter, E. C. Joyner, Rea Parker, J. Lewis Rawls, F. I. Steele, G. H. Warren, O. R. Yates.

FRANKLIN: The class meets on Tuesdays, beginning January 31st, at 2:00 P. M. in the Rotary dining room of the Stonewall Hotel. *Enrollments:* Drs. J. N. Applewhite, W. T. McLemore, R. L. Raiford.

PORTSMOUTH: The class meets on Wednesdays, beginning February 1st, at 8:00 P. M. in King's Daughters Hospital. *Local committee:* Dr. E. W. Rawls. *Enrollments:* Drs. J. W. Abbitt, F. P. Barrow, J. H. Branan, V. A. Brooks, R. L. Corbell, T. Elmore Jones, V. J. Meads, J. C. Phillips, E. W. Rawls, A. J. Russo.

NORFOLK: The class meets on Thursdays, beginning February 2nd, at 2:00 P. M., at first in the auditorium of James Madison School, Hampton Boulevard and 38th Street. *Local committee:* Chairman, Dr. C. J. Andrews, Drs. H. W. Rogers, M. B. Savage, Wallace Spigel, T. N. Vorbrinck. *Enrollments:* Drs. C. J. Andrews, Mallory S. Andrews, T. L. Brooks, A. M. Burfoot, J. L. Deitrick, Elliott D. Floyd, W. S. Hadley, M. N. King, P. St. L. Moncure, Richard H. Peake, H. W. Rogers, M. B. Savage, W. Tilden Smith, T. M. Vorbrinck, P. E. Thornhill.

NORFOLK (for colored physicians): The class meets on Fridays, beginning February 3rd, at 4:00 P. M. in the Norfolk Community Hospital. *Local committee:* Chairman, Dr. U. S. G. Jones, Dr. E. D. Burke. *Enrollments:* Drs. D. W. Byrd, E. D. Burke, J. T. Canaday, C. R. S. Collins, A. C. Fentress, G. H. Francis, S. I. Moone, U. S. G. Jones, E. W. Murray, J. L. Sapp, A. J. Strong, F. R. Trigg and J. Q. A. Webb.

The Commonwealth Fund Reports.

Members of the Medical Society of Virginia will be interested in the evaluation of its program of prenatal and postnatal instruction by the Commonwealth Fund, whose generosity has made it possible for the Society's Joint Committee to establish post-graduate classes in every section of the State where they are desired. The extract below from the recently issued annual report of the Commonwealth Fund is an encouraging summary of the project.

"Only one entirely new item appears in the list of such [special] grants for the year. This is an appropriation of up to $10,000 to meet the major part of the cost of extension teaching in obstetrics arranged for Virginia physicians by a committee representing the State Medical Society, the Medical College of Virginia, and the University of Virginia. It is common knowledge that recent advances in the scientific care of expectant mothers and in the technique of delivery and postpartum care have found their way all too slowly into general practice The cordial partnership between the two medical colleges and the state professional organization in Virginia offered the best possible augury for a productive attack on this problem in that state. The plan has been set up in a way which makes it easy for the physician, on payment of a nominal fee, to attend classes and to secure competent clinical consultation. A young obstetrician with experience in the excellent hospitals of Philadelphia does the teaching, and the extension department of the State university takes responsibility for making the opportunity known to rural and urban physicians throughout the State. The response has been quick and enthusiastic; a large percentage of the physicians practicing in the

area where courses have been given have attended them; and one Negro group has been successfully organized. The result should be genuine improvement in this most important field of general practice, and many of the physicians who have taken the course have expressed interest in similar instruction in pediatrics and other subjects."

GEO. W. EUTSLER,
Secretary Joint Committee.

Proceedings of Societies

Virginia State Board of Medical Examiners.

As a result of the examinations held in Richmond in December, the following were licensed to practice medicine in Virginia:

Dr. William Carlisle Barr, Jr., Washington, D. C.

Dr. Joshua Jack Grizzard, Jr., Winston-Salem, N. C.

Dr. Russell F. Hufford, Parkersburg, W. Va.

Dr. Robert B. Phillips, New York, N. Y.

One chiropodist was also granted a license.

The next examinations of the Board will be held in Richmond, June 21-23, 1933.

Lynchburg Academy of Medicine, Inc.

At a meeting of the Academy, held in Lynchburg, on January 2nd, Dr. James Morrison was elected president in place of Dr. Sam Wilson, and Drs. John Hundley, Jr., F. O. Plunkett, J. Henry Rawlings and George T. Harris were elected members of the board of trustees of the Academy. The applications for membership of Drs. H. H. Hurt, William T. Pugh and T. N. Davis, Jr., were favorably voted upon.

It was decided that the February meeting would be given over to a discussion of the Report on the Costs of Medical Care, and a committee was instructed to study the report and bring in recommendations at that meeting.

Dr. John Hundley, Jr., is secretary-treasurer.

The Roanoke Academy of Medicine

Held its regular meeting at the Elks Club, Roanoke, Va., on January 2nd, at 8:30 P. M. This meeting was devoted to papers on Industrial Surgery and the following were presented:

When To Take X-Rays—Dr. Roy M. Hoover.

When To and When Not To Give Tetanus Antitoxin Serum—Dr. H. Heyward Wescott.

Gas Gangrene Antitoxin—Dr. Hugh H. Trout.

Emergency Treatment in Industrial Surgery—Dr. T. D. Armistead.

Future of Industrial Surgery—Dr. W. R. Whitman.

Discussion on these papers was opened by Drs. J. T. McKinney, T. J. Hughes, W. Banks Huff, and Fred Davis, after which there was a general discussion by members of the Academy and visiting doctors.

The Piedmont (Va.) Medical Society

Held a joint meeting with the Albemarle County Medical Society on December 8th, in the amphitheater of the University of Virginia Hospital. Dr. Percy Harris, of Scottsville, presided, and Dr. W. E. Bray, University, was at the secretary's desk. There was a registered attendance of fifty-one, and, in addition, a number of students were present. Dr. G. R. Elliott, Orange; Dr. A. M. Smith, Charlottesville, and Dr. R. V. Funsten, University, were elected to membership. The following papers were read:

Appendicitis: Observations of the Country Doctor—Dr. J. N. Clore, Madison;

The Survival of the Family Physician—Dr. Roy K. Flannagan, of the State Department of Health, Richmond;

The Use of Adhesive in Acute Orthopedic Conditions—Dr. R. V. Funsten, University.

A paper on Lung Abscess, by Dr. I. A. Bigger, of Richmond, was read by title, as he was unable to attend on account of illness.

Following this program, supper was served about 6:00 P. M., in the grill room at Farmington Country Club.

The Southside Virginia Medical Association

Held its regular quarterly meeting in Petersburg, Va., December 13th, under the presidency of Dr. W. W. Wilkinson, of La Crosse. A very attractive program was presented and all papers read were freely discussed. There was a large attendance and at the close of the scientific program, the visiting doctors were entertained at a delightful dinner by the Petersburg members. Several new members were

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elected. Officers elected for 1933 are: President, Dr. D. C. Mayes, Church Road; vice-presidents, Dr. Leta J. White, Petersburg; Dr. F. N. Mallory, Lawrenceville; Dr. J. Lewis Rawls, Suffolk; Dr. Joel Crawford, Yale; secretary-treasurer, Dr. R. L. Raiford (re-elected), Franklin. The Executive Committee for the coming year will be composed of Drs. E. L. Kendig, Victoria; J. E. Rawls, Suffolk, and C. S. Dodd, Petersburg. The Nominating Committee includes Drs. L. S. Early, Petersburg; T. F. Jarratt, Jarratt, and F. N. Mallory, Lawrenceville.

After what was considered one of the best meetings in the history of the organization, the Association adjourned to meet at Central State Hospital, Petersburg, on the second Tuesday in March.

News Notes

The Tri-State Medical Association of the Carolinas and Virginia

Is to hold its annual meeting in Greenville, S. C., February 13th, 14th and 15th, under the presidency of Dr. C. A. Shore, of Raleigh, N. C. The secretary, Dr. J. M. Northington, Charlotte, N. C., reports that much interest is being manifested in the meeting and a large attendance is expected.

News from University of Virginia, Department of Medicine.

The meeting of the University of Virginia Medical Society was addressed on December 12th, by Dr. Thomas V. Williamson, of Norfolk, Va., on the subject of Granuloma Inguinale.

On December 27th Dr. J. F. Brock, Leverhulme Scholar at the Royal College of Physicians in London, and Dr. James Baker, of The Thorndyke Memorial Laboratories in Boston, spent the day at the Medical School.

Dr. Dan Elkin, Professor of Surgery at Emory University, served as visiting Professor of Surgery during the week of January 9th-14th.

Dr. Carl Ten Broeck, Director of the Rockefeller Institute for Animal Diseases at Princeton, N. J., visited the Medical School on December 5th.

At the meeting of the University of Virginia Medical Society on January 9th, Dr. J. Shelton Horsley, of Richmond, Va., spoke on Indigestion, Its Causes and Treatment.

News Notes Medical College of Virginia.

Dr. Cyrus Sturgis, professor of medicine at the University of Michigan held a clinic for the junior and senior classes of the College January 10th.

For the calendar year the outpatient department of the College showed 59,709 patient visits as compared with 47,842 for the year 1931, an increase of 11,867. This increase is more than half of the total visits made to the outpatient department for the fiscal year 1925-26.

A tabulation of articles written by members of the faculty of the school of medicine of the College and published during the year 1931 in medical journals has been made by Dr. E. C. L. Miller, directing librarian, and shows sixty articles were contributed during the year.

The board room of the college in the new library is to be known as the "Founders' Rooms," and will house portraits of the six founders of the College and articles of professional and personal interest which once belonged to them. Much progress has been made on assembling portraits and articles as descendants of the founders have been very cooperative. The College has not been able to get in touch with any of the descendants of Dr. Augustus L. Warner, first dean of the institution, nor of Dr. Thomas Johnson, first professor of anatomy and physiology.

Recent alumni visitors to the College were Dr. W. E. Bundy '08, Dr. W. H. Flickinger '17, and Dr. B. D. Bosworth '32.

Shortly a bulletin will be mailed featuring the College library and offering its service to the profession either in person or by mail. The library facilities many think should be more widely extended and be more widely used than at present.

The first bequest to be made in a will by a colored person to any unit of the institution was that of Harriet Johnson who bequeathed

$234.00 to the Saint Philip Hospital among her gifts to other institutions for the welfare of her people.

News from the Duke University School of Medicine.

The winter quarter of the medical school began January 4, 1933, with forty-nine students in the first year class, sixty in the second year and fifty-five in the junior-senior class. Four of the senior students completed their medical course December 23, 1932. Two seniors are taking their elective quarter at hospitals in London, England, and Dublin, Ireland, and several others are taking their elective work at other hospitals in this State.

Married.

Dr. David Lemuel Harrell, Jr., and Miss Katie Mae Moore, Lynchburg, Va., January 9th. Dr. Harrell is a graduate of the class of '30, Medical College of Virginia, and is at present a member of the staff of the State Epileptic Colony.

Dr. and Mrs. P. B. Barringer,

Charlottesville, Va., celebrated their golden wedding anniversary on December the 27th, at which time seven of their nine children were with them. The two unable to attend were in foreign countries. Dr. Barringer was former chairman of the University of Virginia faculty and formerly president of the Virginia Polytechnic Institute, Blacksburg, Va.

Dr. Paul J. Parker,

Hampton, Va., was recently named coroner of Elizabeth City County, succeeding the late Dr. Geo. K. Vanderslice.

On Board of Directors of Kiwanians.

Drs. George H. Reese and Philip Jacobson, Petersburg, Va., were recently installed as directors of the Kiwanis Club of that city.

The Annual Congress on Medical Education, Licensure and Hospitals

Will be held at the Palmer House, Chicago, on February 13 and 14, 1933. Matters of vital importance to American medicine will be considered at this time—contract practice, regulation of specialists, enforcement of practice act, and what shall be done with the 1,500 American students soon to be graduated from European Medical Colleges and returned to the United States for licensure and practice. Many of these students were too low-grade to qualify for entrance to our Class A colleges and are sub-standard products.

Railroad rates to Chicago may be had on the certificate plan—one and one-half fare for the round trip—provided 150 non-resident delegates are present.

Dr. Thomas J. Crowe, Dallas, Texas, is president of the Federation, and Dr. Walter L. Bierring, Bankers Trust Bldg., Des Moines, Iowa, is secretary.

Spring Graduate Course.

The Gill Memorial Eye, Ear and Throat Hospital, Roanoke, Va., will conduct its Seventh Annual Spring Graduate Course in Ophthalmology, Otology, Rhinology, Laryngology, Facio-Maxillary Surgery, Oral Surgery, Bronchoscopy and Esophagoscopy, April 3-8, 1933.

Resident members of the faculty ars Drs. E. G. Gill, John A. Pilcher, Jr., and Mr. Nathan Ridgeway, all of Roanoke, and Dr. J. B. Nicholls, Catawba Sanatorium. The guest members are Dr. W. W. Weeks, New York City; Dr. Ralph I. Lloyd, Brooklyn, N. Y.; Dr. David W. Wells and Dr. Lyman Richards, both of Boston, Mass.; Dr. E. B. Burchell, New York City; Dr. Robert F. Ridpath, Philadelphia, Pa.; Dr. Joseph C. Beck, Chicago, Ill.; Dr. John R. Page, New York City; Dr. C. C. Coleman, Richmond, Va.; Dr. H. S. Hedges, Charlottesville, Va.; and Dr. M. F. McCarthy, Cincinnati, Ohio.

All lectures, demonstrations, and operations will be given at the hospital. There will be round table discussions given at the Patrick Henry Hotel each day immediately following lunch, at which those registered will be guests of the Hospital.

Full information with regard to this course may be obtained from the Superintendent, Gill Memorial Eye, Ear and Throat Hospital, Box 2467, Roanoke, Va.

Dr. Karl Blackwell,

Richmond, Va., was elected president of the local alumni chapter of the Kappa Alpha fraternity, at its annual meeting in January.

Doctors Among Bank Directors.

Names of the following doctors were noted as bank directors in the lists published in January: Dr. A. W. Lewis, Ayletts; Drs. Granville Eastham and D. W. Kelly, Culpeper; Dr. D. Lane Elder, Hopewell; Dr. Reid White, Jr., Lexington; Drs. E. G. Brumback and Loring Hammer, Luray; Dr. H. A. Spitler, Middleburg; Dr. Hunter Williams, North Garden; Dr. Charles S. Dodd, Petersburg; Drs. R. D.

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Garcin and Roshier W. Miller, Richmond; Dr. B. C. Shuler, Shenandoah; and Drs. L. M. Allen, C. R. Anderson and Hunter H. McGuire, Winchester.

Correction.

Dr. R. H. Garthright, of Vinton, Va., has brought to our attention an error in the Correspondence appearing on pages 614-615 of the January issue of the MONTHLY. The name published as "Alexander H. Stevenson" should be Alexander H. Stephens.

Dr. A. Stephens Graham,

Of the class of '25, University of Virginia, Department of Medicine, has located in Richmond, Va., with offices at 503 Medical Arts Building, for the practice of surgery and surgical diagnosis, and has been appointed visiting surgeon to Stuart Circle Hospital. After graduation, he interned in Virginia Mason Hospital, Seattle, Wash., and then entered the Mayo Foundation as a Fellow in Surgery. In 1930, he received the degree of Master of Science in Surgery from the University of Minnesota, with which the Mayo Foundation is affiliated. He was then active as an assistant surgeon in the Mayo Clinic until October, 1932, except for a period of four months when he visited European Clinics under the auspices of the Mayo Clinic. He was made a Fellow of the American College of Surgeons last Fall.

Dr. Mason Romaine,

Petersburg, Va., has returned home after a European trip and resumed his duties as health officer of that city.

The Southeastern Surgical Congress

Announces its fourth annual assembly at the Atlanta Biltmore Hotel, Atlanta, Ga., March 6, 7 and 8, 1933.

The following prominent surgeons and internists will appear on the program:

Dr. Tom G. Orr, Kansas City—The Essential Factors in the Treatment of Acute Peritonitis.
Dr. Walter E. Sistrunk, Dallas—Subject to be announced later.
Dr. C. W. Roberts, Atlanta—Subject to be announced later.
Dr. George W. Crile, Cleveland—Peptic Ulcer—Lantern Slides.
Dr. W. G. Haggard, Nashville—Toastmaster.
Dr. Chevalier Jackson, Philadelphia—Diverticula of the Esophagus and Hypopharynx. Lantern and Motion Picture Demonstration.
Dr. Charles Bagley, Jr., Baltimore—Subject to be announced later.
Dr. W. E. Lower, Cleveland—The Various Functions of the Testes; an Experimental and Clinical Report.
Dr. Hugh Cabot, Rochester—Subject to be announced later.
Dr. Hubert A. Royster, Raleigh—Sidelights on the Pathology of Appendicitis.
Dr. E. W. A. Ochsner, New Orleans—The Relative Value of Sclerosing Agents in the Treatment of Varicose Veins.
Dr. Dean Lewis, Baltimore—Muscles, Nerve and Blood Vessel Injuries of the Extremities.
Dr. Carl A. Hedblom, Chicago—The Diagnosis and Treatment of Tumors of the Thorax.
Dr. W. Wayne Babcock, Philadelphia—The Vaginal Approach to the Peritoneum.
Dr. W. R. Houston, Augusta—Subject to be announced later.
Dr. Curtice Rosser, Dallas—Problems Confronting the Proctologist.
Dr. Irvin Abell, Louisville—Tumors of the Breast.
Dr. Robert Wilson, Charleston—The Fundamentals of Surgery—a Medical Viewpoint.
Dr. Cecil Rigby, Spartanburg—Subject to be announced later.
Dr. Russell O. Lyday, Greensboro—Surgical Progress from a Physiological Standpoint.
Dr. Vilray P. Blair, Dr. James Barrett Brown, St. Louis—Cancer of the Mouth.

Clinics will be held also. The complete program will be mailed out about February 15, 1933. In the meantime, prepare to attend. Dr. B. T. Beasley, 1018 Doctor's Building, Atlanta, Ga., is secretary-treasurer.

Virginia Councilman of Southern Medical Association.

Dr. R. Finley Gayle, Jr., Richmond, has been appointed member of the Council of the Southern Medical Association from Virginia for a regular Council term of three years, the appointment having been announced recently by the President, Dr. Irvin Abell, Louisville, Kentucky. Dr. Gayle succeeds Dr. A. L. Gray, of Richmond, deceased.

Dr. J. L. Tabb,

Associate of the late Dr. A. L. Gray, announces that he will continue the practice of roentgenology at their former office, 300 Medical Arts Building, Richmond, Va.

The American Board of Obstetrics and Gynecology

Proposes to hold the first of a series of annual dinners for Diplomates of the Board and their friends on the first day of the Scientific Session of the American Medical Association, meeting in Milwaukee, at which time the successful candidates from the examination of the day before will be introduced in person, one or more addresses will be made by officers of the Board, and a Round Table Conference and general discussion of the activities of the Board will follow. Diplomates expecting to

be in attendance at the Scientific Session of the American Medical Association are urged to make reservation for this subscription dinner as early as possible through the office of the Secretary of this Board. Further announcements will be made through the *Journal of the American Medical Association* and the *American Journal of Obstetrics and Gynecology*.

The next written examination and review of case histories will be held in cities throughout this country and Canada, where there are Diplomates who may be empowered to conduct the examination, on April 1, 1933.

The next general, clinical examination is to be held in Milwaukee on Tuesday, June 13, 1933, immediately preceding the annual session of the American Medical Association. Reduced railroad rates will apply.

For further information and application blanks, address the Secretary, Dr. Paul Titus, 1015 Highland Building, Pittsburgh, Pa.

Dr. Brewster Arthur Hopkins,

Of the class of '29, Medical College of Virginia, and recently connected with the staff of Central State Hospital, Petersburg, Va., has located at Stuart, Va., where he will be engaged in general practice.

"The Little Journal"

Is the new house organ of the S. M. A. Corporation, which they are publishing from their headquarters at 4614 Prospect Avenue, Cleveland, Ohio. They expect to send this to pediatrists. The first number, issued in January of this year, contains a number of trite sayings and several clever short articles. We found this first number very interesting.

Information About the National Institute of Health.

The National Institute of Health, under the control of the Surgeon General of the United States Public Health Service, was created in 1930 as a result of legislation fathered by Jos. E. Ransdell, then a United States Senator from Louisiana. It is an enlargement of the old Hygienic Laboratory, and is the scientific research center of the Public Health Service. Its function is to ascertain the cause, prevention and cure of diseases affecting human beings.

The Secretary of the Treasury was authorized to accept gifts for research in problems relating to the health of man. Although the financial support for research work has been comparatively small in the past, Government scientists have made extremely valuable discoveries concerning many diseases.

The Public Health Service, of which the National Institute of Health is a division, has done excellent work since its creation in 1798. The decrease in the death rate, which has increased the average expectancy of life from 49 years in 1900 to 56 years in 1925, an increase of 18 per cent is due to a large extent to the medical and dental professions and the Public Health Service.

Dr. John Bruce James,

Class of '31, Medical College of Virginia, will sail on March 4th for Paris where he will be located at the American Hospital for a year. His wife and son will accompany him. Dr. James will devote most of his time to the study of neuropsychiatry and endocrinology.

The Clifton Springs Sanitarium and Clinic,

Clifton Springs, N. Y., announces the appointment of Dr. Adrian S. Taylor as superintendent and surgeon-in-chief. Dr. Taylor is a native of Mobile, Ala., and a graduate of the University of Virginia, Department of Medicine, in 1905. He has spent several years in China as a surgeon and teacher, and has been engaged in the practice of surgery in Birmingham, Ala., since 1927.

Dr. Paige E. Thornhill,

For twenty years a practicing physician of Watertown, N. Y., has recently located in Norfolk, Va., with offices in the Wainwright Building, where he is continuing his work in the field of obstetrics and gynecology. During the World War, he was for nearly two years in France. In 1921, Dr. Thornhill obtained a four months' internship on an unexpired service in Long Island College Hospital, Brooklyn, under the late John Osborn Polak, since which time he has limited his work to obstetrics and gynecology. He became a fellow of the American College of Surgeons in 1929. He was secretary of his County Medical Society at the time he left Watertown and was a past president of his District Society and had served for two years as a member of the Council of his State Society.

Dr. Andrew D. Parson,

Who has been located at Raven, Va., since 1920, went to Tulane University the first of the year for additional post-graduate work in urology. Upon his return, he will locate in Richlands, Va.

XUM

Achievements in Medicine Dramatized in New Radio Series.

On January 8th, the House of E. R. Squibb and Sons presented the first of a series of half hour radio programs in keeping with the splendid traditions of its founder.

This half hour of entertainment is on the air every Sunday over the Red Net Work of the National Broadcasting Company Chain, at 4:30 P. M., New York time. It features Frank Black and his Orchestra, the Revelers, and as the high spot a dramatization of gripping moments from the history of medicine.

These presentations of music and interesting dramatic episodes are designed to appeal to almost every type of radio listener. The announcements emphasize that only through a sufficient number of properly trained physicians can a community expect to meet its responsibility for the care and prevention of illness and the protection of health. Impressive reasons are also mentioned as to why the use of the family doctor is a good way to keep down the costs of competent, sympathetic and understanding general medical care.

Dr. R. L. Page.

Batesville, Va., was installed as chaplain of King Solomon's Lodge, No. 194 A. F. and A. M., at its stated meeting in January.

Dr. Charles W. Tucker,

Drakes Branch, Va., has been elected chairman of the Charlotte County Board of Supervisors for the coming year.

Dr. and Mrs. C. C. Smith,

Norfolk, Va., were at home to their friends on the evening of January 10th, in celebration of their tenth wedding anniversary.

Dr. Curtis G. Power,

Of the class of '31, Medical College of Virginia, who interned at the Charleston General Hospital, Charleston, W. Va., recently located at Martinsburg, W. Va., for general practice. He has offices in the Reliance Life Building.

Diabetes.

This magazine made its first appearance with the November, 1932, issue and will be published monthly. It is stated that while there are two German periodicals on this subject, this is the first in the English language. It will be the aim of the management to have the magazine contain practical articles on diet, treatment and general subjects of importance to those suffering from diabetes and it is promised that the articles will be by eminent authorities, written in a non-technical manner. Offices are at 1841 Broadway, New York City.

Dr. Mary E. Roche,

Norfolk, Va., announces her change of address from Medical Arts Building to 910 Wainwright Building, that city.

The Pan-American Medical Association

Will hold its fourth congress in Dallas, Texas, March 21st-25th, under the presidency of Dr. John O. McReynolds of that city. Dr. Jose E. Lopez-Silvero, of Havana, Cuba, is executive secretary.

Obituary Record

Dr. Kirkland Ruffin,

Prominent physician of Norfolk, Va., died December 25th, after an illness of almost seven years. He was sixty-seven years of age, and graduated from the University of Virginia, Department of Medicine, in 1886. He was associated with Dr. Lomax Gwathmey in the founding and operation of St. Christopher's Hospital. Dr. Ruffin was a past president of the Norfolk County Medical Society and the Seaboard Medical Association. He had been a member of the Medical Society of Virginia for forty-four years. He is survived by his wife, two daughters and two sons, one of whom is Dr. Willcox Ruffin, of Norfolk.

On the day we celebrate the birth of our risen Lord there was fulfilled for Dr. Kirkland Ruffin the promise "I will come again and receive you unto myself that where I am there ye may be also."

"For such as he there is no death;
His life the eternal life commands;
Above man's aims his nature rose:
The wisdom of a just content
Made one small spot a continent,
And turned to poetry life's prose."

One of the truly great surgeons of our time, he has left the imprint of his mind and heart on the profession to which he devoted his life. His character was not of the type that reaches its highest expression in any ceremonial piety, but of the type manifest in service to and love for his fellowman.

RESOLVED BY THE STAFF OF THE NORFOLK PROTESTANT HOSPITAL, That we pay tribute to the character and attainments of Dr. Ruffin, and that we gratefully acknowledge his services to us and to this Institution.

RESOLVED FURTHER, That copies of this testimonial be recorded on our minutes and published in the VIRGINIA MEDICAL MONTHLY.

H. S. BAKER,
W. B. MARTIN,
L. F. MAGRUDER,

The members of the NORFOLK COUNTY MEDICAL SOCIETY wish to express their deep sense of loss at the passing of Dr Kirkland Ruffin, on December 25, 1932.

To the entire profession here, for many years, he

has been an example of all that a conscientious practitioner of medicine should be. His large number of personal followers turned to him for assistance when in doubt and always found his counsel of benefit. His criticism was gentle and rarely left a sting.

Even after several years' retirement from active practice his host of patients felt a sense of personal loss when they knew that their Dr. Ruffin was no more. His professional service they had learned to do without but the memory of his kindness and his skill in administering to them still remains. His time-taking care and his consideration of the poor who came to him for help were always a source of inspiration to those who watched him work. Time was no object with him and the ability of his patient to pay was not a consideration. Through all of his life he lived up to the highest ideals and teachings of the Medical Profession.

We wish to take this opportunity to express to the members of his family our appreciation of his life and our privilege in knowing and working with him.

JULIAN L. RAWLS,
CHAS. R. VANCE,
N. G. WILSON,
Committee.

Dr. James Henry Culpepper.

Your committee wishes to acknowledge with profound sorrow and deep heartfelt regret the death of our beloved member, Dr. James H. Culpepper. Both the community and entire medical profession have lost one of its most valuable members.

Dr. Culpepper graduated from the Norfolk Academy and, after devoting two years to academic and literary studies at the University of Virginia, he began the study of medicine at the University of Virginia in 1901 and at the completion of the freshman year transferred his medical credits to the University of Pennsylvania and there received his degree of Doctor of Medicine in June, 1905. After an internship of about two years Dr. Culpepper began the practice of medicine and surgery in Norfolk where his career was marked by steady advancement due to his intrinsic professional qualifications and his unusual ability to make steadfast friends with all who came in contact with him. Not only was he a capable and finished surgeon but possessed the rare insight which made him a thorough internist and capable diagnostician.

Dr. Culpepper served as President of the Norfolk County Medical Society, as President of the Seaboard Medical Association and Medical Director of the Norfolk Protestant Hospital. He was a member of the Medical Society of Virginia, a Fellow of the American Medical Association, a Fellow of the American College of Surgeons and a Fellow of the Southern Surgical Association. Words can but fail to express our love and admiration for Jim Culpepper. His optimism and courage for the past seven years have been a source of constant wonder and inspiration to all his professional associates. Every one of us marvelled at the enthusiasm, the industry and energy of this great but physically handicapped man. One marvelled at his diagnostic skill, his practical grasp on both surgical subjects and business problems and one delighted in the kindliness of his sweet and sincere disposition and his philosophy of life which was of such a broad understanding.

He will be missed and mourned by countless number of grateful patients, loyal friends and devoted colleagues. Life to Dr. Culpepper was synonomous with service and achievement. He was one of God's noblemen whose presence inspired confidence and trust.

THEREFORE BE IT RESOLVED, That in the death of Dr. James H. Culpepper, the Norfolk County Medical Society has sustained an irreparable and never-to-be-forgotten loss;

BE IT FURTHER RESOLVED, That a page in the minute book of this Society be set aside and dedicated to his memory and that a copy of these resolutions with expression of our deepest sympathy, be presented to his family and to the VIRGINIA MEDICAL MONTHLY.

B. R. KENNON,
E. A. LAND,
R. L. PAYNE,
Committee.

Dr. Culpepper died Christmas Day, 1932, at the age of fifty years. He was born in Portsmouth, Va., and was the son of Dr. and Mrs. Vernon G. Culpepper. He is survived by his wife, one son, his mother and a sister, Mrs. Stanley H. Graves, of Norfolk.

Dr. Carter Weisiger

Died at his home in Cumberland, Va., December 30, 1932, in his fifty-eighth year. He was born in Richmond, Va., and educated in the public schools of that city, after which he entered the University College of Medicine in 1893, graduating in 1896 in the first class that went through that institution. He practiced a short time at Fork Union, Va., and, following the death of Dr. Fuqua at Cumberland, moved to that county where he practiced his profession for more than thirty years, serving as county physician and coroner for a number of years. He was a member of the Medical Society of Virginia for more than thirty-five years, a Past Master of Cumberland Lodge No. 283, A. F. & A. M., and a member of the Methodist Church. He is survived by his mother, sister and three brothers, among them Dr. W. R. Weisiger, of Richmond. Interment was in Maury Cemetery, Richmond.

XUM

Dr. Martin L. Dalton,

Well known physician of Southwestern Virginia, died at his home at Montvale, Va., on January 2nd, death being due to bronchopneumonia following influenza. Dr. Dalton was fifty-six years of age and graduated from the former University College of Medicine, Richmond, in 1899, and later took post-graduate work at the New York Post-Graduate Hospital. Twenty-five years of his professional life was spent at Floyd, Va. He was a member and past-president of the Southwestern Virginia Medical Society and had been a member of the Medical Society of Virginia since 1901. Dr. Dalton is survived by his wife, four children, two sisters and two brothers, Drs. J. B. Dalton, of Richmond, and H. A. Dalton, of Carroll County, Virginia.

Dr. Charles Mason Smith,

City Health Officer of Fredericksburg, Va., died suddenly January 2nd, following a long period of ill health. He was fifty-one years of age and graduated in medicine from the University of Virginia in 1907. Dr. Smith had been a member of the Medical Society of Virginia for twenty-three years. His wife and two daughters survive him.

Dr. Richard Huckstep Holt,

Of Middleburg, Va., was asphyxiated, January 2nd, when the muffler of his car became immersed at he attempted to ford a river near Leesburg, Va. He was thirty-four years of age and a graduate of the University of Virginia, Department of Medicine, in 1925. Dr. Holt is survived by his wife and one child.

Dr. Henry Clary Beckett,

Chase City, Va., died January 11th, after a brief illness. He was born in Giles County, Va., in 1851, and received his medical degree from Vanderbilt University, Nashville, Tenn., in 1884. Dr. Beckett practiced in Scottsburg, Va., for thirty-three years before locating at Chase City. He had been a member of the Medical Society of Virginia for forty-seven years. His wife and four children survive him.

Dr. Joseph D. Rogers,

Washington, D. C., died January 12th after an illness of more than a year. He was born at Hamilton, Va., in 1880, and graduated in medicine from the George Washington University in 1900. Dr. Rogers was coroner of the District of Columbia and head of the Casualty Hospital in Washington. He had been a member of the Medical Society of Virginia since 1913 and was corresponding secretary of the Medical Society of Virginia, Maryland, and the District of Columbia for a number of years.

Dr. Ferdinand Mitchell Perrow,

Formerly a member of the Medical Society of Virginia, died at his home, Lynchburg, Va., January 19th, after an illness of some time. He was a native of Campbell County, Va., and fifty-eight years of age. He graduated in medicine from the University of Virginia in 1902 and later from the University of Pennsylvania, after which he practiced in Lynchburg until forced to retire on account of bad health. His widow and a son survive him.

Resolutions on Death of Dr. Gray.

Alfred Leftwich Gray died October 12, 1932, aged fifty-nine years. When he chose Medicine as his profession, he began his citizenship in the world of Science and learned to think its thoughts. His vision of Medicine as a life work was a broad one and he ever maintained a more than casual interest in all that concerns the human body in health as well as in disease; so much so in fact that in his early life he studied extensively and taught several of the fundamental branches of medical science.

It was the unknown ray, however, which early attracted his attention and aroused in him a special interest, and he became a pioneer in Roentgenology as an important aid to diagnosis and a valuable therapeutic agent. He excelled in its technique and interpretation to an extent which won for him national recognition as an authority, and the fame thus attained caused him to be widely sought as a consultant. His eminence was attested by his elevation to the presidency of the American Roentgen Ray Society.

As a physician Dr Gray was beloved by those who sought his advice and skill, because of that gentleness of character, human sympathy, spirit of optimism and quiet humor which so endeared him to all who knew him. Among his colleagues of the medical profession, he was affectionately known as "Monk" from his student days, and he was sure of a hearty welcome in any gathering of members of the profession, whether of a deliberative or social nature, where his geniality and joviality made him the center of admiration.

His passing deprives the members of his special group of Roentgenologists, of an able counsellor, for he was always willing to give of his time and of himself to those who needed his advice. He was generous to a degree rarely seen, with his wealth of experience, whether for the benefit of a less experienced colleague, or of humanity, or for the advancement of the science of Roentgenology.

The members of the Virginia Roentgen Ray Club, therefore, feel his loss in a peculiar sense and wish to record their affection and esteem for Alfred Gray as a scientist and friend and say to him in farewell:

"This earth that bears thee dead,
Bears not alive so stout a gentleman."

Be it Resolved, That this memorial be published in the Virginia Medical Monthly and that a copy be sent to his bereaved family.

V. W. Archer,
H. B. Spencer,
Wright Clarkson.
Committee.